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NOVEMBER 1986

**UPWELLING INDEX UPDATE,
U.S. WEST COAST,
33N-48N LATITUDE**

Janet E. Mason and Andrew Bakun

NOAA-TM-NMFS-SWFC-67

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Center

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ABSTRACT

Two different sets of coastal upwelling index time series: (1) monthly upwelling indices, previously published for the period 1946-71, and (2) daily and weekly means of 6-hourly synoptic upwelling index computations, previously published for the period 1967-73, are updated through 1985 at locations off the western United States. Because of differences in the calculation procedures, the two sets are not numerically equivalent; i.e., monthly means of the daily values in set (2) are not equal to the corresponding monthly values in set (1). Thus the two series should not be intermingled in analysis procedures. Because of uncertainties concerning the longterm homogeneity of the data fields used for generating the series, long period variations (i.e., of the scale of decades and longer) should be regarded as suspect. The indices are most appropriately used to indicate relative fluctuations of upwelling intensity within groups of fairly contemporaneous years.

INTRODUCTION

The near-coastal regions of the major eastern boundary current systems of the world's oceans are characterized by vigorous coastal upwelling, high rates of primary production generally attributed to nutrient input to the illuminated surface layers by the upwelled waters, and particularly massive pelagic fish populations which feed low in the oceanic food web. The size of these pelagic stocks has fluctuated widely. A natural hypothesis is that interyear variability in upwelling intensity may be the cause of variability in the pelagic fish stocks and in other biotic components of the ecosystems.

Observations of upwelling rate are not available. Indications of coastal upwelling in the sea temperature distributions are qualitatively obvious but very difficult to quantify, particularly on longer time scales. Wooster and Reid (1963) demonstrated that the offshore directed surface Ekman transport constitutes an 'index of upwelling' that satisfactorily explains the seasonal variation in the near-coastal cooling attributed to upwelling. Bakun (1973) generated monthly estimates of offshore Ekman transport for the period 1946 to 1971. These were based on monthly mean analysed surface atmospheric pressure fields obtained from the U.S. Navy's Fleet Numerical Oceanography Center (FNOC), and utilized a simplified approximation to planetary boundary layer dynamics (15-degree anti-clockwise rotation and 30% contraction of the geostrophic wind vector). The resulting 'coastal upwelling indices' consequently avoid the problem of observing actual upwelling rates in the ocean by estimating the variation in the atmospheric forcing which drives the upwelling. No data from within the ocean itself are incorporated.

The conceptual model assumes that surface water transported away from the coast on large enough coastwise space scales, such that it cannot be readily replaced by horizontal surface flow, must be replaced by upwelling of deeper waters. Thus the model is valid only when averaged over fairly large space scales; this is accomplished by the atmospheric analysis procedures which are designed to suppress features of less than several hundred kilometers in extent. They also serve to 'spread' observational data which is irregularly distributed in time and space so as to fill data gaps in a meteorologically realistic manner and reduce inhomogeneities in the resulting time series (for further discussion of this aspect, see Bakun 1986). Use of monthly mean data was dictated by the varying frequencies of and origins of synoptic analyses available over the period previous to 1967. The computation procedure is nonlinear, and it was felt that making the computations on the synoptic data might introduce more serious time series inhomogeneities than if the computations were made after the higher frequency variability had been smoothed by monthly averaging.

These series have been updated routinely at Pacific Fisheries Environmental Group (PFEGroup) since Bakun's (1973) publication. They have been applied in a number of studies of environmental effects on fish stocks of the California Current system including northern anchovy (MacCall 1979), Pacific mackerel (Parrish and MacCall 1978), sardine (Bakun and Parrish 1980), Pacific hake (Bailey 1981), bonito (Collins and MacCall 1977), Dover sole (Hayman and Tyler 1980), rockfish (Bakun and Parrish 1980), coho salmon (Nickelson and Lechatowich 1984, McGie 1984), Dungeness crab (Peterson 1973, Botsford and Wickham 1975), and pink shrimp (Rothlisberg and Miller 1983). They have also been used in various studies of other biological and physical aspects of variability in the California Current ecosystem.

A second set of upwelling indices has been prepared for the period since 1967, when a consistent series of FNOC 6-hourly objectively analyzed synoptic wind/pressure analyses became available. These were intended to provide a useful description of the timing and intensity of shorter period upwelling and offshore surface transport fluctuations. Daily and weekly means of these series for the period 1967-73 were published by Bakun (1975).

Both sets of series were originally presented at 15 near-coastal intersections of a 3-degree latitude/longitude computation grid, arranged along the west coast of North America from 21N to 60N latitudes. In the present report, subsets of both are presented for the locations from 33N to 48N, updating each subset through 1985. Updates to the monthly upwelling index time series presented by Bakun (1973) are tabulated in Appendix A. Daily and weekly means of 6-hourly synoptic upwelling index computations, updating the series published by Bakun (1975) are presented in both numerical and graphical form in Appendix B. Details as to computational procedures, etc., can be found in the original publications.

CAVEATS

Because the 'monthly' upwelling indices are computed from monthly mean data, while the 'daily and weekly means' are averages of synoptic computations, the results are not numerically equivalent. This is the result of the nonlinear computation procedure whereby a computation from mean data produces an underestimate, the degree of which depends on the variance of the process during the month. To partially offset this underestimate, an artificially high drag coefficient is used in the computation of the monthly series. This results in average numerical parity near the area of 45N latitude. However, since the variance of the wind decreases to the south of

that point, the result is a tendency to produce an overestimate which reaches a maximum off Southern California and northern Baja California. This effect is discussed in detail by Bakun (1973). The conclusion is that series from different locations should not be used for spatial comparisons, and certainly that segments of the 'monthly' and of the 'daily and weekly mean' series should not be mixed together in any way.

Another source of spatial distortion in both sets of series arise from the fact that the scale of the analysis procedures does not resolve details of coastal topography which have important effects. For example, off Southern California the surface atmospheric pressure gradient is interrupted by the coastal mountain range; low barometric pressure in the hot central valley desert is thus actually separated from the area of higher barometric pressure over the cooler ocean by solid earth and rock. The result is that the real pressure gradient over the coastal ocean may be substantially less than that described by the analyzed large scale differences between pressures reported from central valley stations and pressures reported from coastal stations and ships at sea. The result is artificial amplification of values off Southern California compared to locations farther north (see Bakun 1973,1975).

As mentioned by Bakun (1973), because of differences in the manner of analysis of earlier pressure fields in the monthly time series, and also because changes in station pattern over time, etc. might introduce artificial variations, long period variations (of decades and longer) should be regarded as suspect. Thus, attempting to correlate long-term trends or very long-period oscillations between these data and other time series is not recommended. Even aside from the concerns about possible long-term time series inhomogeneities, such longer period variations would represent too few real (i.e., independent) degrees of freedom to provide a basis for well founded empirical conclusions. In fact it will generally be necessary to remove long-period autocorrelation by filtering out long period variations both in the series presented here and in any other physical or biological series being analyzed with them, in order to avoid unacceptable reduction in available degrees of freedom. Assuming a separate degree of freedom for each data point in an autocorrelated time series is definitely an invalid procedure, a mistake often made in fisheries publications. One formula for estimating the appropriate reduction in degrees of freedom in autocorrelated time series is presented by Sutcliffe et al. (1976).

ACKNOWLEDGEMENT

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APPENDIX A

Tabulation of Monthly Coastal Upwelling Indices

The following 3 pages display the monthly coastal upwelling indices for 6 near-coastal points over the period 1972-85. The first column indicates the year. The twelve columns to the right contain the monthly values computed from the respective monthly mean surface atmospheric pressure fields. These update the series presented by Bakun (1973).

The units are metric tons per second per 100 m of coastline. These units may be thought of as the average amount (metric tons or cubic meters) of water upwelled through the bottom of the Ekman layer each second along each 100 m of a straight line directed along the dominant trend of the coastline on a scale of about 200 miles. Because of uncertainties in some of the constants employed and for other reasons mentioned in this report and in Bakun (1973), it may be well to consider these indices as indicative of relative fluctuations at a location rather than as quantitative measures of absolute magnitude.

NOAA/MMFS/SWFC/PFEG - MONTEREY, CALIFORNIA

MONTHLY COASTAL UPWELLING INDICIES

48N 125W

	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1972	-8	-83	-32	-5	11	27	15	27	8	5	-84	-66
1973	-151	-56	-7	23	9	11	32	54	0	-11	-26	-104
1974	-31	-46	-31	-3	12	38	19	37	4	-1	-50	-80
1975	-24	-90	-4	17	15	59	45	14	10	-60	-104	-48
1976	-63	-35	-24	-3	6	31	5	9	1	-6	-37	-53
1977	-45	-99	11	-2	9	39	42	24	2	-30	-65	-63
1978	-129	-111	-4	-3	17	28	58	3	-16	0	-16	-10
1979	-73	-82	-2	10	24	83	25	35	-2	-16	-187	-140
1980	-68	-218	3	-15	41	32	63	68	5	-39	-145	-113
1981	-251	-76	-16	-1	8	5	80	24	-6	-10	-123	-102
1982	-24	-73	-1	0	59	74	36	38	7	-44	-56	-96
1983	-165	-197	-63	5	45	24	18	26	12	-3	-127	-126
1984	-42	-143	-29	-14	-1	33	72	27	-0	-21	-121	-28
1985	-107	-20	-9	7	20	49	79	39	12	-21	-19	-155

45N 125W

	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1972	-19	-103	-25	-1	34	55	52	56	19	34	-64	-68
1973	-111	-43	-1	43	25	27	76	103	3	-3	-46	-129
1974	-36	-51	-37	2	26	80	36	72	16	6	-46	-75
1975	-33	-77	-1	35	26	98	68	40	38	-48	-79	-44
1976	-41	-30	-10	-0	21	56	23	17	14	-0	-31	-47
1977	-40	-109	8	1	9	71	73	41	7	-7	-67	-100
1978	-145	-88	-1	-1	28	34	92	13	-5	5	-4	-4
1979	-67	-103	-0	6	34	86	30	31	0	-8	-127	-157
1980	-19	-155	1	-7	52	32	103	96	9	-19	-121	-113
1981	-206	-68	-14	-0	12	8	107	40	-1	-5	-103	-106
1982	-31	-72	-5	-2	79	59	51	38	12	-40	-52	-98
1983	-202	-216	-95	3	35	19	18	35	25	-1	-166	-52
1984	-29	-131	-33	-8	-2	37	121	37	3	-21	-138	-14
1985	-63	-2	-5	5	15	52	83	46	12	-9	-3	-112

NOAA/NMFS/SWFC/PFEG - MONTEREY, CALIFORNIA

MONTHLY COASTAL UPWELLING INDICIES

42N 125W

	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1972	-4	-64	-3	29	101	155	119	95	44	60	-34	-43
1973	-89	-53	32	125	106	125	186	198	19	6	-41	-116
1974	-8	-17	-16	31	152	177	87	135	38	41	-22	-23
1975	-11	-65	6	89	101	220	133	123	72	-11	-17	-12
1976	-10	-4	20	15	132	166	95	44	52	7	-23	-27
1977	-21	-57	44	27	36	203	192	79	32	4	-18	-110
1978	-170	-68	0	10	111	87	192	73	8	33	4	3
1979	-30	-69	3	13	100	153	62	46	8	-4	-88	-146
1980	-7	-124	22	6	122	83	152	179	29	-3	-46	-116
1981	-179	-39	-1	44	66	78	201	78	15	-1	-69	-105
1982	-7	-31	-2	3	189	66	97	51	37	-22	-49	-97
1983	-212	-256	-129	8	56	77	61	43	61	0	-144	-22
1984	-17	-85	-9	18	21	101	181	63	31	-4	-117	-4
1985	-32	9	5	21	32	89	80	63	21	1	1	-80

39N 125W

	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1972	3	-19	22	90	184	254	191	162	81	41	-2	-2
1973	-49	-53	101	253	252	325	324	319	86	53	-7	-35
1974	1	9	2	105	356	297	182	250	104	114	2	5
1975	20	-20	21	150	254	355	230	247	165	24	19	5
1976	9	9	101	59	331	304	249	111	134	79	2	3
1977	0	5	140	121	97	372	365	193	93	79	14	-49
1978	-112	-14	2	35	289	233	364	245	119	137	54	28
1979	-2	-6	14	36	243	309	170	141	88	7	-17	-37
1980	-1	-77	91	62	264	195	233	338	116	37	7	-22
1981	-90	-3	24	191	250	318	346	216	107	22	-17	-42
1982	8	-1	0	14	329	114	189	123	144	5	-8	-19
1983	-88	-142	-78	19	128	247	217	103	143	23	-29	-16
1984	17	-2	31	111	156	325	275	182	183	37	-32	2
1985	-0	86	44	107	120	186	147	139	75	69	22	-11

NOAA/NMFS/SWFC/PFEG - MONTEREY, CALIFORNIA

MONTHLY COASTAL UPWELLING INDICES

36N 122W

	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1972	10	5	107	147	183	228	197	179	83	4	1	4
1973	-2	-28	123	208	260	267	295	250	111	43	17	0
1974	-0	33	28	148	361	288	213	217	128	69	19	19
1975	27	10	55	156	271	287	266	201	152	71	57	23
1976	22	20	124	115	259	196	224	109	80	49	4	1
1977	2	34	141	153	138	232	247	173	85	67	41	-10
1978	-36	1	5	59	188	240	252	183	83	68	22	12
1979	-3	10	30	161	259	350	238	259	121	41	3	-9
1980	-1	-17	105	144	317	292	224	276	131	51	32	-7
1981	-20	5	56	189	333	289	250	252	159	42	0	3
1982	2	4	9	41	239	207	221	170	115	26	-0	3
1983	-23	-16	4	35	187	269	223	116	74	30	11	2
1984	13	23	101	231	277	336	186	189	113	93	3	-3
1985	-1	51	88	150	228	199	202	180	84	74	28	-11

33N 119W

	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
1972	8	33	168	228	243	283	254	201	144	36	16	24
1973	15	1	182	216	290	282	288	234	167	65	75	24
1974	1	43	91	207	372	330	229	245	159	97	26	4
1975	10	45	123	197	282	362	322	251	166	100	55	16
1976	-1	34	120	198	304	262	277	212	88	50	4	-6
1977	9	57	163	207	224	325	285	225	158	91	37	-5
1978	-2	10	22	153	195	306	282	210	97	67	22	-6
1979	-4	31	64	273	280	317	300	276	129	141	22	-9
1980	3	0	95	192	385	407	312	301	224	69	28	-15
1981	-2	10	105	212	334	260	268	272	200	83	27	29
1982	16	27	53	123	272	390	261	234	141	60	9	17
1983	-1	20	96	112	313	373	298	148	119	53	66	34
1984	12	63	140	278	308	394	215	194	90	145	52	0
1985	8	36	170	194	330	294	255	242	127	85	44	-8

APPENDIX B

Tabulation of Daily and Weekly Upwelling Indices

The following pages display daily and weekly means of 6-hourly upwelling index computations at 6 near-coastal locations over the period 1974-85. The display for each location occupies twelve consecutive pages, one page per year. These update the time series presented by Bakun (1975).

The left column indicates the calendar date of the Sunday which begins a particular week. The seven columns to the right contain the daily averages progressing from Sunday through the following Saturday. Each daily average summarizes the synoptic computations at 4 AM, 10 AM, 4 PM, and 10 PM Pacific Standard Time. The average of the seven daily mean values is listed in the right column of numbers.

The units are metric tons per second per 100 m of coastline. These units may be thought of as the average amount (metric tons or cubic meters) of water upwelled through the bottom of the Ekman layer each second along each 100 m of a straight line directed along the dominant trend of the coast on a scale of about 200 miles. Because of uncertainties in some of the constants employed and for other reasons outlined in this report and in Bakun (1973 & 1975), it may be well to consider these indices as indicative of short term relative fluctuations at a location rather than as quantitative measures of absolute magnitude.

To the right of each weekly row of numerical values, the daily values are plotted as horizontal lines, and the weekly means as vertical bars. Where a given value is so large that the plotted line would extend off the graph, truncation of the line is indicated by an "X".

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1974 AT 48N, 125W

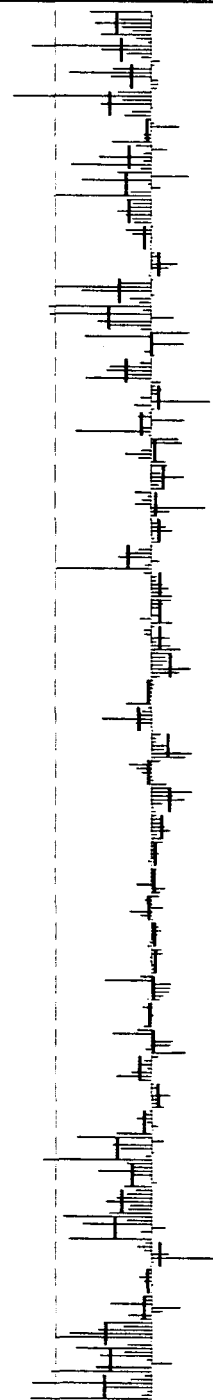
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-22	-6	-14	-4	-23	-116	-220	-58							
13 JAN	-85	-292	-227	-125	-184	-939	6	-179							
20 JAN	14	-26	95	21	-6	111	49	28							
27 JAN	86	67	118	-159	-187	52	-54	-11							
3 FEB	-87	141	23	15	5	2	7	15							
10 FEB	-9	-96	-18	-278	-59	-131	24	-71							
17 FEB	-84	18	95	-274	-25	-18	-184	-77							
24 FEB	-228	-49	-14	-277	-268	26	58	-105							
3 MAR	-7	64	116	37	3	-961	-443	-84							
10 MAR	-74	-87	-6	-18	-112	-238	-92	-80							
17 MAR	17	31	18	6	91	21	11	18							
24 MAR	-19	-156	-182	-178	-73	-153	26	-104							
31 MAR	-118	-21	-1	8	-258	-938	-52	-109							
7 APR	-46	-59	97	-48	141	99	-91	6							
14 APR	-18	44	4	21	67	-7	13	18							
21 APR	-22	12	28	-6	-2	16	52	18							
28 APR	16	-8	42	-4	8	8	4	11							
5 MAY	5	-5	21	7	2	4	92	18							
12 MAY	64	-99	98	-8	5	21	28	16							
19 MAY	18	4	-16	-35	-48	-68	-15	-23							
26 MAY	95	47	48	49	15	2	4	27							
2 JUN	94	-59	-6	16	86	32	43	19							
9 JUN	25	32	56	37	4	7	62	32							
16 JUN	188	87	183	85	48	31	74	76							
23 JUN	75	64	7	-89	-28	-5	8	5							
30 JUN	83	64	18	-18	21	52	95	39							
7 JUL	18	6	8	2	-1	4	1	4							
14 JUL	-6	8	-128	-11	18	99	22	-9							
21 JUL	-9	18	33	51	42	49	27	29							
28 JUL	97	48	28	26	56	47	48	41							
4 AUG	77	78	58	52	45	59	98	66							
11 AUG	41	11	22	9	8	25	95	21							
18 AUG	96	24	8	-4	-7	-1	6	9							
25 AUG	26	24	16	6	6	8	18	14							
1 SEP	-6	-6	11	8	6	19	-1	4							
8 SEP	-71	-1	11	12	5	-12	-13	-10							
15 SEP	8	8	22	24	-5	-24	-7	3							
22 SEP	14	11	8	66	84	39	24	35							
29 SEP	1	-19	-41	28	43	99	-8	8							
6 OCT	-4	-8	-4	-12	-3	-14	14	-3							
13 OCT	11	-2	-6	-7	-4	-8	1	-2							
20 OCT	68	9	-18	-3	-28	-51	-121	-21							
27 OCT	-96	62	1	-28	17	19	-18	3							
3 NOV	-51	-98	-148	-31	8	-111	-12	-62							
10 NOV	-68	-237	-92	-26	9	-4	-48	-58							
17 NOV	-265	-7	-95	-12	26	-86	-199	-74							
24 NOV	-175	41	-78	-18	-67	-49	-62	-57							
1 DEC	-126	-211	-228	-63	-89	-159	-226	-159							
8 DEC	-85	-83	-128	21	-118	-112	-7	-74							
15 DEC	-83	-84	-74	-58	-44	-62	185	-30							
22 DEC	65	-18	-82	-87	15	46	-58	-17							
29 DEC	-89	2	-182	11	-162	-47	-43	-73							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1975 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE					
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400
5 JAN	-92	25	-128	182	-4	-17	-449	-60						
12 JAN	-65	-6	-12	-90	-103	-17	-96	-48						
19 JAN	18	29	-107	-137	-13	0	53	-22						
26 JAN	93	1	7	-5	-215	-230	-148	-79						
2 FEB	-123	-247	-91	-918	-548	-73	-284	-240						
9 FEB	-132	25	-174	-90	12	-43	22	-55						
16 FEB	24	-55	-84	118	182	-149	-200	-36						
23 FEB	-17	2	-150	-66	-52	-33	-109	-61						
2 MAR	-69	8	25	7	-24	-82	-3	-20						
9 MAR	3	22	-6	22	12	-65	-78	-13						
16 MAR	-137	-204	-68	-42	-124	-286	4	-121						
23 MAR	5	58	158	19	-8	6	51	40						
30 MAR	296	37	-55	-16	-21	-9	12	36						
6 APR	8	14	95	6	18	28	47	20						
13 APR	43	19	12	18	15	39	84	33						
20 APR	12	-4	-49	-66	-28	34	77	-3						
27 APR	176	15	18	19	3	-65	-21	16						
4 MAY	26	45	6	5	-18	-38	-14	3						
11 MAY	13	7	-18	2	1	17	-1	4						
18 MAY	82	73	44	27	14	115	65	61						
25 MAY	8	6	8	16	21	29	8	14						
1 JUN	48	38	6	2	47	64	52	37						
8 JUN	32	22	98	67	34	44	45	40						
15 JUN	98	68	58	26	49	58	51	57						
22 JUN	6	18	33	28	12	34	28	20						
29 JUN	21	32	31	37	46	35	21	32						
6 JUL	15	18	28	39	49	44	43	33						
13 JUL	8	15	24	7	-8	2	17	18						
20 JUL	17	22	8	5	28	27	43	20						
27 JUL	71	67	68	46	91	31	17	47						
3 AUG	-3	26	44	21	-15	11	15	14						
10 AUG	93	95	27	24	34	17	-12	23						
17 AUG	15	34	28	11	68	-28	51	26						
24 AUG	22	9	-48	-41	-98	-32	-7	-29						
31 AUG	5	25	17	22	6	-8	17	13						
7 SEP	45	44	27	16	-18	-9	18	17						
14 SEP	24	29	53	24	-5	-11	-6	15						
21 SEP	-17	-8	-2	21	23	-8	5	3						
28 SEP	25	9	-18	-28	-118	-72	-86	-39						
5 OCT	-73	-25	-96	-489	-242	-89	11	-135						
12 OCT	14	-4	-73	-41	-288	-1	-151	-66						
19 OCT	-18	-2	18	41	15	-249	-57	-37						
26 OCT	-182	-55	-86	-87	6	-141	-92	-72						
2 NOV	-197	-167	-95	-29	-386	-34	-8	-123						
9 NOV	-21	27	-273	-499	-275	-949	-185	-222						
16 NOV	-25	5	-125	-285	-77	-185	-173	-124						
23 NOV	-46	22	-13	88	62	11	-82	3						
30 NOV	-48	-22	-71	-6	99	-11	-98	-20						
7 DEC	-64	-18	48	25	16	-38	45	2						
14 DEC	3	9	-22	-29	-55	-88	-294	-69						
21 DEC	-361	-166	-281	-42	-319	-269	-141	-226						
28 DEC	-135	-5	187	15	-18	-121	-282	-39						

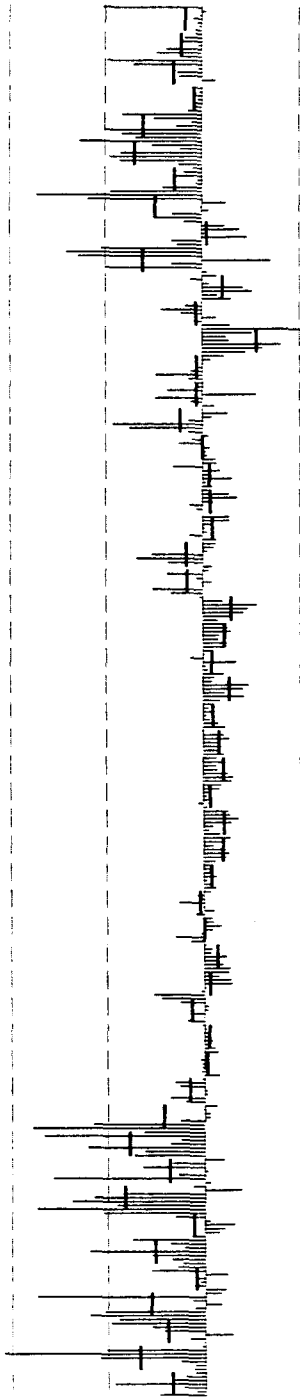
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1976 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	-127	5	-66	-116	-60	-38	-103	-72							
11 JAN	-91	-6	-247	-101	-51	-21	18	-63							
18 JAN	8	-78	-178	-89	13	13	13	-41							
25 JAN	-68	-287	-58	-105	5	-37	-54	-86							
1 FEB	-7	7	59	1	-14	-19	-89	-7							
8 FEB	-92	32	-16	-108	-16	-165	-21	-47							
15 FEB	-78	78	-149	-6	18	-41	-203	-53							
22 FEB	-51	-39	-41	-78	-52	-37	-34	-46							
29 FEB	2	-53	-38	9	-2	-1	-2	-13							
7 MAR	8	17	5	54	95	1	-5	16							
14 MAR	5	-64	-198	-149	6	-41	-23	-66							
21 MAR	-212	-17	-211	46	-111	-81	-22	-88							
28 MAR	77	-138	1	66	8	-15	6	-8							
4 APR	8	-21	-86	-81	-45	-137	17	-52							
11 APR	8	21	14	-22	123	-34	6	17							
18 APR	-4	-26	68	1	-17	-157	-3	-28							
25 APR	58	63	1	-28	-52	-26	91	8							
2 MAY	32	1	18	68	21	16	22	26							
9 MAY	-33	-6	-18	-32	113	38	18	18							
16 MAY	2	15	28	42	8	6	14	15							
23 MAY	-1	-25	-52	-68	16	-11	-199	-49							
30 MAY	-15	18	18	24	96	24	42	19							
6 JUN	41	23	28	-1	17	-22	42	17							
13 JUN	6	-14	-14	38	18	48	58	18							
20 JUN	48	31	32	24	88	57	19	48							
27 JUN	3	5	3	-2	-3	-5	-49	-7							
4 JUL	-7	-19	-29	-182	-32	-9	2	-27							
11 JUL	18	7	8	28	27	81	71	34							
18 JUL	18	-47	-98	-28	-8	9	29	-7							
25 JUL	48	85	45	68	22	5	8	39							
1 AUG	18	17	24	29	97	12	17	21							
8 AUG	24	8	6	17	4	-7	1	8							
15 AUG	11	2	-8	8	-29	27	18	5							
22 AUG	15	-12	-4	22	-45	-22	2	-6							
29 AUG	2	14	21	11	4	-4	-8	6							
5 SEP	18	23	-2	-1	6	7	6	8							
12 SEP	-21	-87	97	38	96	24	17	5							
19 SEP	-3	-18	8	4	-1	-5	-13	-5							
26 SEP	-28	-79	1	43	98	-12	69	5							
3 OCT	15	-14	-29	-7	-41	-72	-22	-24							
10 OCT	4	18	-1	97	13	11	24	14							
17 OCT	-5	-14	-28	-8	12	2	-72	-16							
24 OCT	-153	24	-88	-65	4	-12	-224	-72							
31 OCT	-51	-37	-189	-38	-2	18	-55	-48							
7 NOV	-31	-58	-71	-84	-45	-48	-88	-61							
14 NOV	-182	-58	-142	28	-21	-1	-169	-77							
21 NOV	-12	-28	-15	35	148	9	-2	18							
28 NOV	-4	-11	-25	-15	5	8	-2	-7							
5 DEC	-15	-18	-85	58	22	-48	-24	-16							
12 DEC	-94	-58	-118	-169	-195	-1	-58	-97							
19 DEC	-155	-56	-186	-18	41	-113	-287	-87							
26 DEC	-15	-43	-247	-188	-9	-28	-258	-98							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1977 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	-203	8	-3	-18	-7	-4	-11	-34							
9 JAN	-12	-34	-98	-5	-72	-92	-43	-42							
16 JAN	-194	-148	-6	-58	-46	27	1	-58							
23 JAN	-28	-4	-13	-8	-18	-14	-27	-15							
30 JAN	-162	-88	-28	-53	-281	-164	-196	-119							
6 FEB	-252	-182	-43	-165	-191	-168	-49	-139							
13 FEB	-17	-36	-52	-8	-12	-88	-188	-56							
20 FEB	-342	-236	47	-2	15	-68	-85	-96							
27 FEB	-96	45	77	8	83	-62	-52	11							
6 MAR	-289	-278	-255	148	-62	-288	9	-122							
13 MAR	28	-25	19	82	183	38	68	42							
20 MAR	1	-39	-84	-42	28	-11	56	-12							
27 MAR	211	182	48	54	161	124	88	113							
3 APR	44	16	-1	-6	-21	-85	-27	-13							
10 APR	-18	-12	-71	111	-97	-24	25	-12							
17 APR	-8	52	18	-27	-183	-151	-27	-45							
24 APR	12	-21	-48	14	6	7	26	-1							
1 MAY	28	-68	34	19	58	6	28	14							
8 MAY	11	59	68	22	-25	-12	8	17							
15 MAY	55	54	21	9	7	-27	28	28							
22 MAY	26	22	7	-184	-196	-71	17	-34							
29 MAY	11	-72	-12	18	2	-182	-63	-31							
5 JUN	-5	41	118	82	82	57	98	58							
12 JUN	47	58	55	99	98	47	44	44							
19 JUN	28	2	-26	85	5	11	41	17							
26 JUN	23	18	84	81	44	89	93	54							
3 JUL	17	8	18	5	12	98	44	19							
10 JUL	-2	42	52	26	96	95	43	33							
17 JUL	28	49	27	98	51	68	58	42							
24 JUL	96	91	16	6	8	-18	8	13							
31 JUL	49	55	78	56	18	11	92	41							
7 AUG	55	48	18	46	51	46	24	48							
14 AUG	18	18	15	27	8	16	24	15							
21 AUG	14	-12	-8	-58	-3	28	-17	-8							
28 AUG	18	18	94	15	-8	-57	-25	-1							
4 SEP	4	15	14	45	27	98	51	28							
11 SEP	48	28	53	56	2	-5	-181	12							
18 SEP	-88	-58	8	7	-28	-2	-95	-27							
25 SEP	-3	9	8	11	15	8	22	9							
2 OCT	28	8	-8	-4	-4	-6	98	6							
9 OCT	-9	-68	-48	9	5	-78	-97	-38							
16 OCT	23	-2	8	11	-58	-227	-954	-84							
23 OCT	-125	-938	-48	-71	-248	-121	-144	-154							
30 OCT	97	-66	-126	5	-54	-919	18	-72							
6 NOV	-23	75	-168	-227	-273	-188	-345	-163							
13 NOV	-289	-61	18	68	98	98	-26	-22							
20 NOV	-147	-69	-41	-236	-188	-67	-46	-182							
27 NOV	-56	-111	46	-14	-18	-21	41	-18							
4 DEC	92	-346	-27	32	-21	-285	-237	-118							
11 DEC	-176	-182	-188	-85	56	-38	-1	-77							
18 DEC	-7	-281	-416	-217	-49	-28	-23	-133							
25 DEC	-28	-39	-68	-186	-45	-18	-94	-67							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1978 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-144	-198	-147	-105	-11	-54	-468	-160							
8 JAN	-171	-141	-11	-44	-186	-901	-298	-152							
15 JAN	-69	-118	-44	-278	-78	-232	12	-114							
22 JAN	7	-38	-97	7	3	-38	-18	-15							
29 JAN	-22	-106	-184	-216	-127	-65	-306	-138							
5 FEB	-284	-988	-258	-452	-91	-8	-178	-215							
12 FEB	-239	-87	-113	-11	-132	-71	-71	-105							
19 FEB	-48	-66	-45	-9	12	-49	5	-26							
26 FEB	8	9	11	-8	-26	-39	-7	-8							
5 MAR	-29	-432	-248	12	12	18	84	-82							
12 MAR	-11	82	14	-65	-78	9	14	-3							
19 MAR	28	8	18	-18	-69	-262	-94	-45							
26 MAR	-2	-5	-28	29	68	5	8	18							
2 APR	-93	-139	-116	-163	21	48	56	-48							
9 APR	9	139	82	32	-2	-19	8	35							
16 APR	-3	-82	-25	-31	-18	-26	-11	-28							
23 APR	-17	-77	3	41	47	42	-26	2							
30 APR	9	-8	88	88	81	16	23	48							
7 MAY	25	65	61	-39	-19	-52	-88	-7							
14 MAY	-77	25	34	48	96	24	121	29							
21 MAY	64	7	97	8	-46	-74	-34	-5							
28 MAY	52	63	98	17	7	11	18	29							
4 JUN	97	35	2	17	5	-7	-18	18							
11 JUN	-55	-17	-18	32	99	22	68	9							
18 JUN	99	55	54	74	24	11	24	49							
25 JUN	28	48	32	71	24	37	29	37							
2 JUL	44	48	21	18	45	68	22	37							
9 JUL	67	29	18	29	29	28	54	33							
16 JUL	61	39	42	37	28	26	48	39							
23 JUL	82	38	17	2	25	27	93	32							
30 JUL	55	57	29	21	98	42	18	37							
6 AUG	96	34	18	34	28	-68	-8	18							
13 AUG	17	5	63	47	21	11	4	24							
20 AUG	7	17	-22	-148	-189	-219	-24	-82							
27 AUG	-23	-12	3	1	-28	-82	-13	-23							
3 SEP	8	8	16	-2	-4	-167	-141	-41							
10 SEP	-28	-6	-4	17	-3	66	21	9							
17 SEP	46	25	-92	-15	-41	-31	-7	-8							
24 SEP	-13	-25	-183	-69	-28	-32	12	-36							
1 OCT	16	-19	25	4	-5	-36	-98	-7							
8 OCT	-67	7	8	34	7	-15	-52	-11							
15 OCT	-29	9	8	-11	8	45	-3	3							
22 OCT	-86	-2	34	-1	1	-1	9	-7							
29 OCT	26	-9	-44	-61	-4	58	57	2							
5 NOV	-34	-158	-18	68	92	-5	-4	-16							
12 NOV	-11	-14	-58	-268	-3	12	-214	-78							
19 NOV	-25	-51	2	-4	-14	-34	-6	-19							
26 NOV	-37	-65	-34	-28	8	24	-33	-24							
3 DEC	7	114	72	8	-93	-181	-24	-5							
10 DEC	-377	71	-48	-124	47	-58	-954	-118							
17 DEC	-38	-8	-59	-28	-14	51	12	-9							
24 DEC	69	5	-1	94	-3	-19	-82	8							
31 DEC	-182	-181	-127	-197	-295	-133	-123	-171							

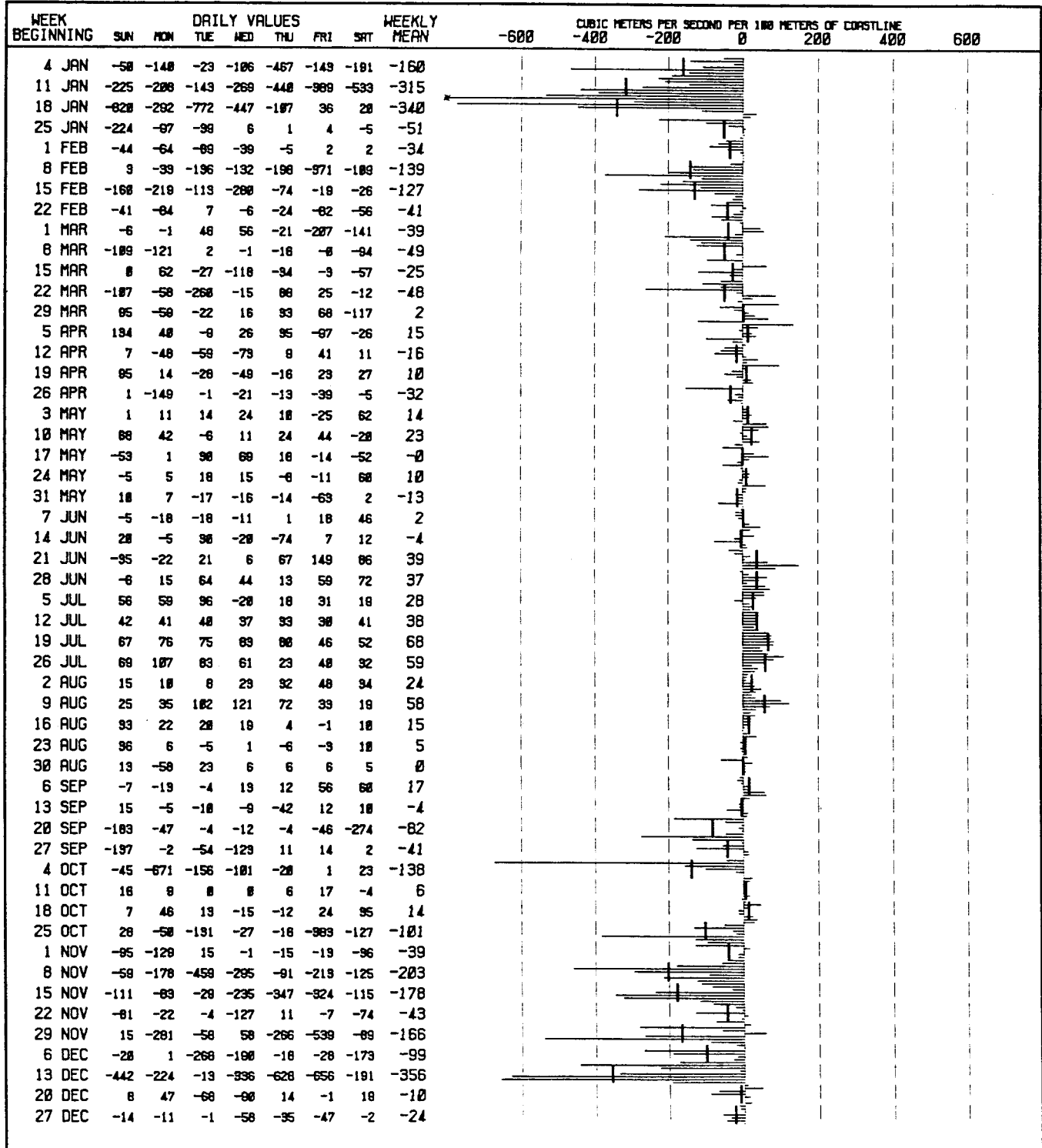
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1979 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
7 JAN	-156	-104	-269	-76	-2	0	-102	-101							
14 JAN	-148	0	-82	-31	-79	-120	-75	-78							
21 JAN	58	-98	-95	-9	-6	-21	25	-3							
28 JAN	-7	-117	-6	0	-4	-27	-6	-24							
4 FEB	-66	-1	-24	-18	-265	-18	-27	-59							
11 FEB	-27	-342	-38	-65	-323	-159	-424	-197							
18 FEB	-96	-18	-96	-1	-98	-55	-412	-84							
25 FEB	-171	-36	-24	-8	-27	-154	-163	-83							
4 MAR	-264	-114	-79	42	0	-49	-42	-71							
11 MAR	-8	5	-74	-55	-7	9	-91	-24							
18 MAR	15	35	31	15	-4	10	71	26							
25 MAR	11	-5	20	48	51	102	60	41							
1 APR	24	38	42	45	16	90	-69	27							
8 APR	-14	39	0	19	-415	34	-2	-48							
15 APR	2	50	57	15	-17	-9	1	15							
22 APR	2	9	17	25	-4	-8	2	7							
29 APR	37	82	71	0	-48	-49	-80	1							
6 MAY	-48	-14	87	52	11	39	18	19							
13 MAY	22	19	97	49	42	104	99	45							
20 MAY	31	0	-33	18	18	0	67	14							
27 MAY	42	81	48	58	48	45	66	55							
3 JUN	58	9	83	100	70	52	52	61							
10 JUN	76	56	34	4	0	0	21	30							
17 JUN	58	136	56	30	31	15	24	50							
24 JUN	55	73	107	68	47	48	41	62							
1 JUL	81	-5	-18	1	0	19	-51	7							
8 JUL	-83	-52	-79	-18	14	11	42	-23							
15 JUL	43	18	58	80	118	159	114	83							
22 JUL	87	85	73	57	60	85	24	67							
29 JUL	2	2	45	81	114	69	68	54							
5 AUG	54	52	56	52	48	42	56	50							
12 AUG	37	21	6	6	5	1	-7	10							
19 AUG	0	6	3	-7	-1	-2	8	1							
26 AUG	12	28	43	38	25	-38	-147	-6							
2 SEP	-156	-37	-67	-28	-13	-135	-80	-74							
9 SEP	0	19	28	11	-13	-28	15	4							
16 SEP	96	16	28	18	21	58	37	28							
23 SEP	29	0	12	6	5	-12	-51	-0							
30 SEP	-2	31	3	-38	29	26	16	10							
7 OCT	43	18	-14	-4	4	6	7	7							
14 OCT	18	-18	8	-65	-65	-18	6	-17							
21 OCT	-492	-958	-111	-520	-284	-128	-99	-276							
28 OCT	22	-37	-231	-4	-132	-990	-191	-138							
4 NOV	-188	-186	-185	-34	-6	-3	0	-51							
11 NOV	-16	-41	-174	-372	-174	-129	-3	-129							
18 NOV	-2	-63	-458	-848	-177	-85	7	-233							
25 NOV	-5	-1	-338	-747	-415	-57	-122	-241							
2 DEC	-38	-157	52	44	45	-7	-13	-9							
9 DEC	148	85	59	-19	-118	0	-322	-24							
16 DEC	-672	-956	-369	-118	-269	52	-218	-277							
23 DEC	-741	-952	-116	-171	-268	-259	-317	-318							
30 DEC	-489	-241	-182	-188	-9	9	57	-126							

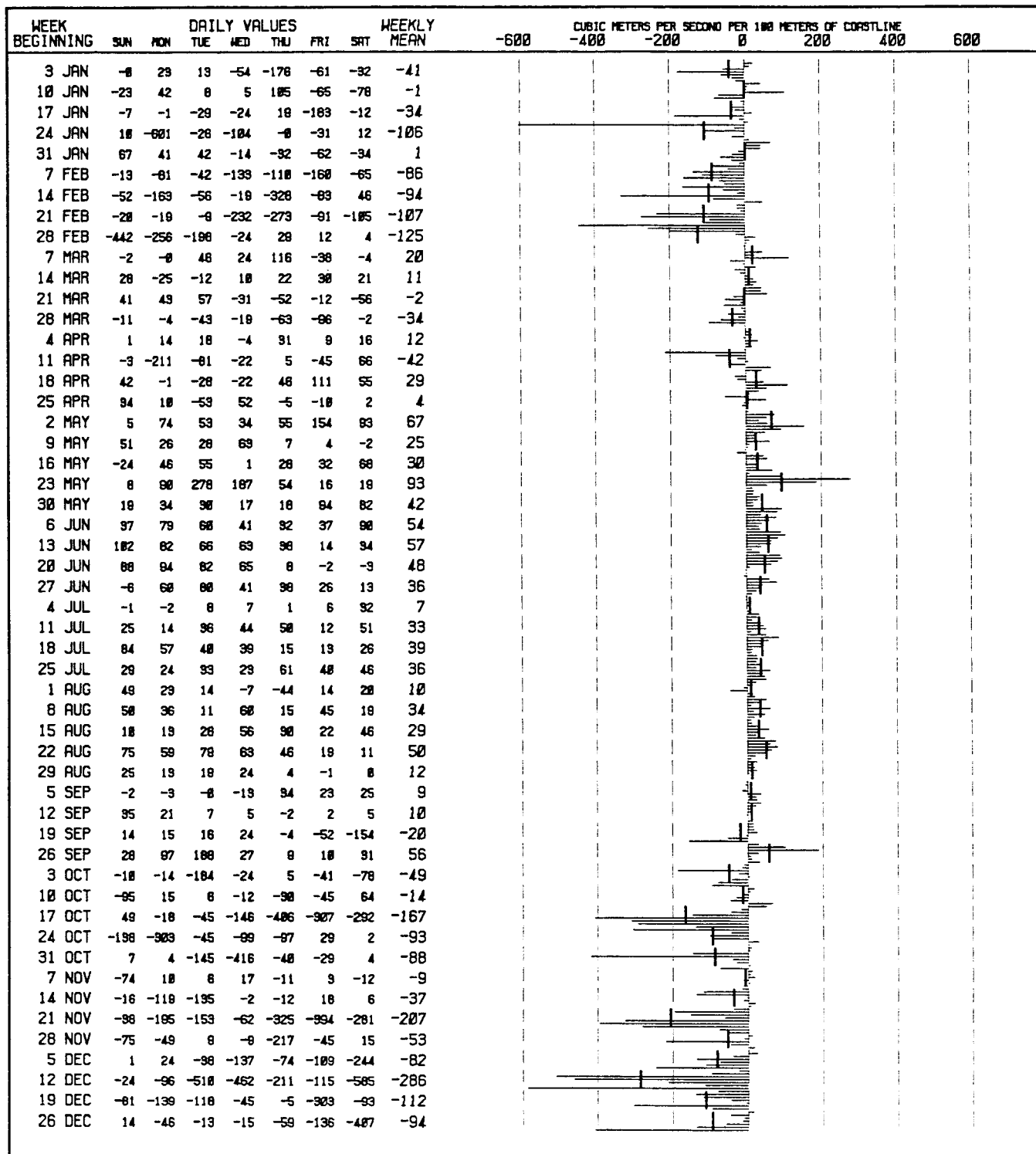
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1980 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-1	-26	-84	-29	-79	-542	-52	-115							
13 JAN	-98	-69	-164	26	61	-66	-161	-63							
20 JAN	-68	-69	-43	1	24	9	-101	-38							
27 JAN	-67	-122	-68	-928	-599	-939	-415	-275							
3 FEB	-63	-169	-323	-21	-18	-84	-53	-106							
10 FEB	-92	-36	-21	-66	-106	-195	-913	-122							
17 FEB	-297	-139	9	1	-27	-55	-282	-105							
24 FEB	-297	-968	-393	-942	-198	-148	-58	-236							
2 MAR	8	21	-48	-58	-6	4	93	-5							
9 MAR	1	26	54	-328	-26	-11	12	-38							
16 MAR	-173	5	79	-18	1	73	162	19							
23 MAR	98	-21	-12	75	-15	-34	100	28							
30 MAR	15	82	91	-2	-96	-89	-216	-32							
6 APR	-98	-181	-234	-81	-4	-68	-91	-90							
13 APR	-42	-43	8	-39	-24	-195	-13	-50							
20 APR	71	56	11	-8	-14	-72	5	7							
27 APR	8	75	81	19	58	118	14	52							
4 MAY	-43	-7	21	14	-3	9	49	5							
11 MAY	57	48	13	25	18	9	55	30							
18 MAY	12	-27	-3	18	17	100	84	28							
25 MAY	128	61	17	46	183	86	115	78							
1 JUN	289	41	6	14	4	-6	-21	35							
8 JUN	-15	-3	9	98	96	45	54	31							
15 JUN	12	81	65	69	27	28	5	40							
22 JUN	4	-98	-97	1	53	45	54	12							
29 JUN	88	48	95	6	-98	1	17	21							
6 JUL	48	98	92	19	-5	34	61	31							
13 JUL	48	98	25	51	75	51	23	44							
20 JUL	24	8	74	88	49	79	82	57							
27 JUL	111	195	59	54	95	25	53	67							
3 AUG	67	89	58	29	95	62	97	52							
10 AUG	7	26	49	88	57	53	96	44							
17 AUG	113	71	87	67	55	95	57	69							
24 AUG	58	8	8	46	1	-7	14	19							
31 AUG	18	-8	98	-8	-3	-31	-14	-2							
7 SEP	54	12	18	58	41	67	25	39							
14 SEP	-4	18	95	29	18	-29	97	13							
21 SEP	8	2	11	12	-18	-16	-16	-2							
28 SEP	-112	-47	8	-18	-83	-49	-78	-56							
5 OCT	-82	-11	5	67	-71	-72	-2	-25							
12 OCT	-58	-28	18	21	5	-8	-14	-18							
19 OCT	-54	18	33	-186	-378	-158	-28	-95							
26 OCT	-92	-42	-68	-26	-291	-545	-83	-157							
2 NOV	-125	-228	-298	-269	-284	-158	-98	-191							
9 NOV	-7	-18	-28	-159	-227	-8	-186	-91							
16 NOV	-218	-98	-47	-36	-148	78	-99	-72							
23 NOV	-5	-188	-29	-938	-8	-151	-28	-187							
30 NOV	-18	-68	-99	-14	-4	-12	-16	-23							
7 DEC	-69	-68	-178	-284	-185	-72	-178	-136							
14 DEC	-178	-36	9	18	-96	-118	-239	-84							
21 DEC	-171	-8	-344	-982	-256	-918	-61	-287							
28 DEC	-196	-183	-16	-31	-78	-244	-141	-186							

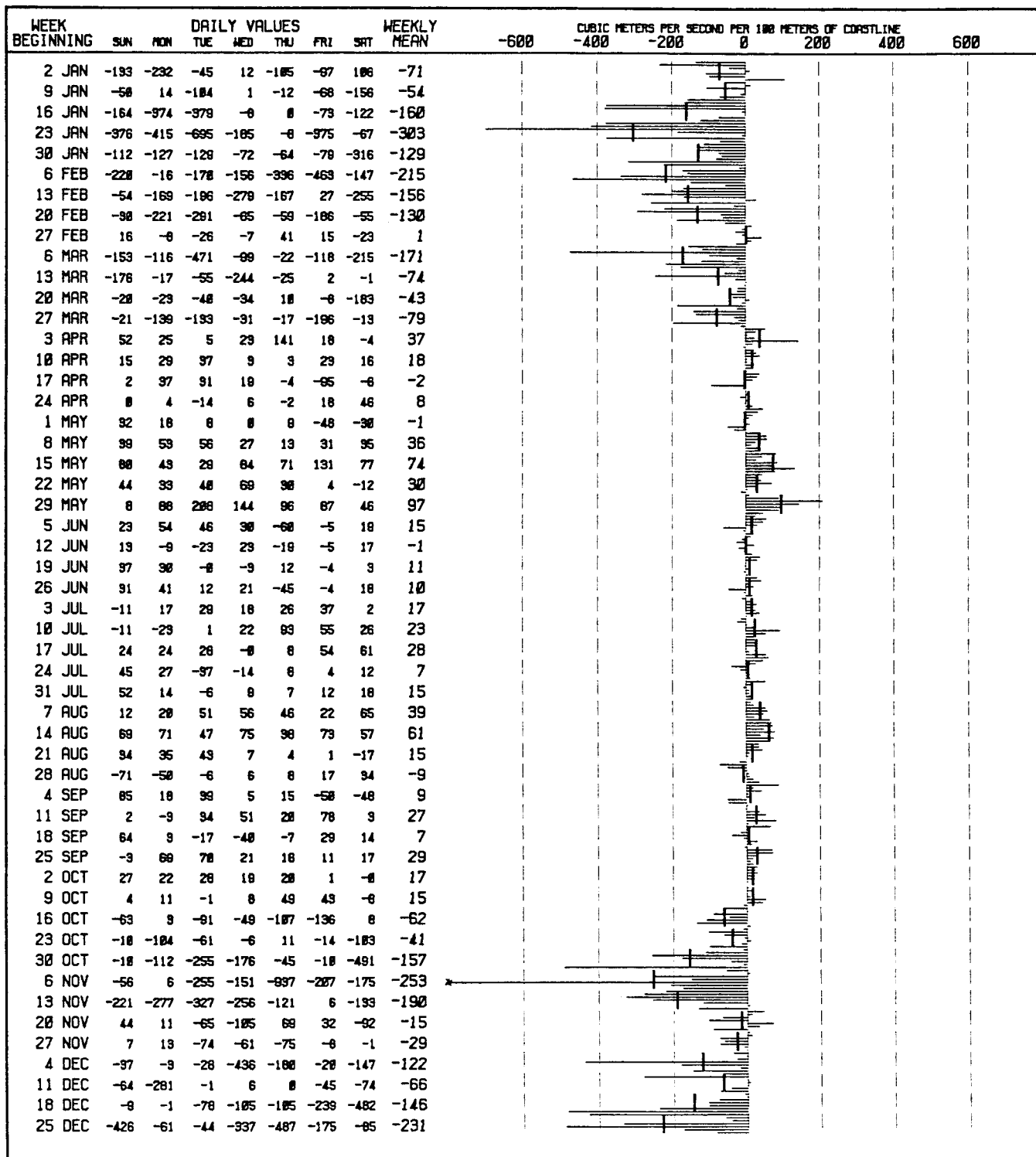
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1981 AT 48N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1982 AT 48N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1983 AT 48N, 125W

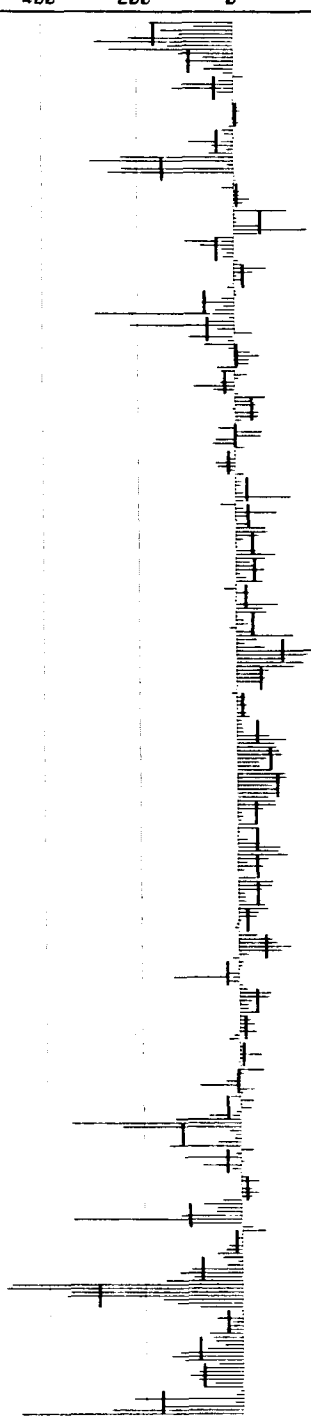


PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1984 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-358	-136	-146	-26	-91	-52	-156	-128							
8 JAN	-172	-282	-7	18	14	-18	-78	-77							
15 JAN	-94	-4	-54	-52	-82	-183	-118	-74							
22 JAN	11	-16	18	98	-97	12	57	21							
29 JAN	7	-21	7	13	8	-91	-184	-30							
5 FEB	-83	-119	-431	-297	-398	-85	-152	-216							
12 FEB	-163	-16	-183	-43	-8	-95	-257	-109							
19 FEB	-488	-44	63	-48	-285	-26	14	-105							
26 FEB	-391	-255	-75	-191	-94	12	6	-133							
4 MAR	-18	-9	-31	-13	-25	-32	-11	-20							
11 MAR	-128	-33	-68	-38	-74	-166	-88	-84							
18 MAR	-46	-78	-286	-18	-124	18	-15	-66							
25 MAR	-93	44	-28	25	7	-14	45	8							
1 APR	58	-6	-98	21	64	-68	-96	-8							
8 APR	-12	-387	-41	-178	-27	-288	-115	-127							
15 APR	-54	16	-188	-186	-7	-48	-18	-44							
22 APR	6	89	198	88	91	39	48	61							
29 APR	-41	-37	-15	21	18	9	45	-0							
6 MAY	4	-128	-15	-29	-44	-32	-2	-35							
13 MAY	6	58	65	5	-8	-48	-51	4							
20 MAY	11	-34	-232	5	8	-187	75	-40							
27 MAY	5	11	82	117	55	37	58	52							
3 JUN	-18	18	-2	62	198	18	48	34							
10 JUN	18	43	63	63	164	85	71	71							
17 JUN	56	15	28	68	57	-9	3	30							
24 JUN	18	-6	-4	-37	24	32	-18	2							
1 JUL	15	19	13	12	186	44	46	36							
8 JUL	52	91	98	45	98	58	94	48							
15 JUL	52	185	121	134	87	84	41	91							
22 JUL	24	19	28	14	24	68	65	33							
29 JUL	23	25	56	74	47	14	8	35							
5 AUG	24	-8	-15	18	73	64	93	26							
12 AUG	98	1	-3	-1	-12	11	43	18							
19 AUG	47	7	6	68	28	32	32	30							
26 AUG	41	51	4	5	18	27	15	23							
2 SEP	-18	-6	-13	18	-2	-32	98	-2							
9 SEP	97	9	1	8	-21	-47	-18	-5							
16 SEP	-93	-3	96	52	122	56	25	37							
23 SEP	4	-1	-98	-2	-18	-65	-71	-26							
30 SEP	25	14	1	-112	-98	-186	-275	-78							
7 OCT	-189	-62	-243	-28	-78	-348	27	-131							
14 OCT	23	7	25	-9	-154	-78	2	-26							
21 OCT	-25	-17	-8	-45	47	55	-2	1							
28 OCT	41	4	73	-179	-584	-319	-48	-145							
4 NOV	-93	-124	-62	-68	-98	-98	-78	-69							
11 NOV	-47	-47	72	-26	-183	-66	-522	-186							
18 NOV	-54	-84	15	-82	-388	-28	-34	-95							
25 NOV	-19	-526	-351	48	-58	23	-52	-134							
2 DEC	-342	-295	-255	-163	-258	-84	11	-198							
9 DEC	-63	-2	-83	98	-197	-12	3	-29							
16 DEC	-28	-38	-99	-41	-76	-23	49	-27							
23 DEC	55	-1	5	8	17	6	-111	-3							
30 DEC		-68	-75	-176	-268	-258	-73	-153							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1985 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-172	-61	-147	-109	-215	-208	-194	-164							
13 JAN	-257	-113	-62	-97	-41	-59	-19	-92							
20 JAN	28	-29	-107	-125	-93	-1	-3	-40							
27 JAN	-2	11	15	5	-2	11	-8	4							
3 FEB	-22	-10	3	-99	-44	-14	-51	-34							
10 FEB	-234	-298	-13	-232	-261	9	4	-147							
17 FEB	-3	-23	11	12	93	20	-3	7							
24 FEB	109	9	6	6	57	150	48	54							
3 MAR	-96	-99	-69	-24	-14	-23	9	-36							
10 MAR	28	65	98	5	18	-2	-15	18							
17 MAR	3	4	-26	-66	-23	-40	-287	-62							
24 MAR	-10	-58	-216	-37	96	-84	-14	-56							
31 MAR	-62	-11	91	49	91	28	-37	4							
7 APR	-27	25	9	-29	-84	-43	8	-20							
14 APR	62	36	42	-5	49	46	12	34							
21 APR	1	-34	54	52	-41	-46	18	1							
28 APR	-2	-1	-18	-48	-85	-18	18	-14							
5 MAY	2	12	13	0	17	114	17	25							
12 MAY	-91	17	83	26	1	25	59	26							
19 MAY	64	46	14	-2	1	41	80	35							
26 MAY	68	28	48	57	8	22	53	38							
2 JUN	-1	-24	27	1	-3	83	53	20							
9 JUN	61	1	15	24	-14	30	116	33							
16 JUN	99	15	57	178	145	100	196	95							
23 JUN	117	65	54	58	53	2	-1	50							
30 JUN	-11	16	8	21	2	19	26	12							
7 JUL	18	11	12	14	65	101	75	41							
14 JUL	81	86	89	58	43	47	68	67							
21 JUL	98	101	86	69	80	76	62	82							
28 JUL	76	78	52	7	13	8	52	38							
4 AUG	44	3	-8	28	47	86	85	41							
11 AUG	102	62	21	51	12	1	95	41							
18 AUG	78	67	48	12	16	16	54	40							
25 AUG	68	41	37	5	-5	-8	3	19							
1 SEP	98	67	78	107	80	21	-12	56							
8 SEP	9	5	-2	-27	-134	-27	9	-24							
15 SEP	19	65	59	25	18	19	41	35							
22 SEP	16	25	29	12	34	-19	-23	12							
29 SEP	-3	6	1	44	8	-4	2	8							
6 OCT	48	8	-7	-28	-82	38	5	-4							
13 OCT	-28	28	4	21	-18	-67	-135	-25							
20 OCT	-358	-244	-24	-9	-13	-47	-149	-119							
27 OCT	24	-11	-115	6	-77	-28	-2	-28							
3 NOV	11	37	-8	22	95	21	-37	13							
10 NOV	-78	-48	-52	-124	-348	-118	23	-105							
17 NOV	47	-3	-11	-3	-27	-34	-51	-12							
24 NOV	-39	-18	-33	-105	-128	-99	-158	-82							
1 DEC	-478	-498	-356	-863	-163	-134	-88	-296							
8 DEC	-3	-1	-54	-23	-24	-34	-78	-38							
15 DEC	-61	-56	-38	-73	-128	-146	-128	-89							
22 DEC	-52	-75	-93	-118	-93	-68	-82	-80							
29 DEC	-5	-16	-226	-18	-163	-273	-459	-166							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1974 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-12	13	-4	-6	-29	-220	-361	-88							
13 JAN	-267	-524	-435	-182	-180	-321	9	-271							
20 JAN	26	-9	8	4	-20	80	58	20							
27 JAN	13	-15	-20	-131	-211	6	-53	-60							
3 FEB	-100	95	43	35	30	10	17	20							
10 FEB	3	-32	-20	-237	-78	-141	14	-71							
17 FEB	-103	-27	13	-228	-45	-18	-83	-70							
24 FEB	-163	-64	-59	-327	-226	-20	42	-118							
3 MAR	-14	-25	32	52	22	-238	-410	-83							
10 MAR	-101	-85	-61	-38	-124	-162	-31	-86							
17 MAR	37	56	55	16	31	40	18	36							
24 MAR	-32	-150	-166	-301	-164	-115	13	-132							
31 MAR	-143	-18	-14	-6	-280	-257	-50	-110							
7 APR	-40	-33	30	-21	56	41	-7	4							
14 APR	6	71	20	41	100	-6	13	36							
21 APR	0	14	33	-5	-11	9	30	11							
28 APR	45	12	48	10	43	48	25	33							
5 MAY	17	3	26	41	1	-1	24	16							
12 MAY	66	-9	12	-2	7	29	16	17							
19 MAY	18	1	-7	-9	-44	-47	-5	-13							
26 MAY	69	141	190	67	49	33	21	73							
2 JUN	52	-16	-93	8	60	54	89	31							
9 JUN	78	57	74	36	1	6	96	50							
16 JUN	205	186	191	92	34	49	141	120							
23 JUN	165	132	24	-40	-8	27	66	54							
30 JUN	139	103	48	20	15	78	73	68							
7 JUL	12	1	-9	2	-1	23	4	5							
14 JUL	9	5	-150	-10	29	63	93	-4							
21 JUL	2	16	92	120	127	66	27	65							
28 JUL	37	32	30	49	111	103	82	63							
4 AUG	106	111	111	98	101	96	120	106							
11 AUG	94	44	95	11	13	31	45	39							
18 AUG	31	16	13	-1	-1	4	12	10							
25 AUG	40	43	96	16	7	6	23	25							
1 SEP	3	1	8	14	14	22	-2	9							
8 SEP	-46	2	21	73	52	-6	-9	12							
15 SEP	7	20	57	54	6	-3	4	21							
22 SEP	19	22	1	31	87	46	35	34							
29 SEP	9	0	6	34	55	60	41	31							
6 OCT	28	8	-5	-19	-3	-1	17	4							
13 OCT	35	17	-3	-4	6	-1	4	8							
20 OCT	46	31	-2	-8	-13	-41	-94	-10							
27 OCT	-47	140	29	-12	28	34	18	26							
3 NOV	-22	-71	-93	-51	12	-86	-22	-48							
10 NOV	-78	-212	-41	-16	4	1	-19	-50							
17 NOV	-222	-55	-118	-89	92	-120	-168	-96							
24 NOV	-180	24	-51	-1	-35	-42	-77	-51							
1 DEC	-124	-196	-157	-54	-127	-156	-124	-134							
8 DEC	-66	-51	-172	-7	-83	-96	-18	-70							
15 DEC	-60	-79	-31	-73	-89	-203	84	-64							
22 DEC	87	5	-20	-54	-34	38	-4	1							
29 DEC	-82	5	-106	9	-106	-101	-64	-64							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1975 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
5 JAN	-150	1	-109	64	-35	11	-209	-73							
12 JAN	-114	-36	-22	-58	-61	-30	-13	-48							
19 JAN	8	29	-58	-98	-36	-4	75	-11							
26 JAN	46	20	17	4	-131	-129	-85	-37							
2 FEB	-77	-115	-17	-253	-435	-32	-227	-165							
9 FEB	-132	-23	-233	-208	13	-2	42	-78							
16 FEB	50	-29	-78	65	44	-101	-114	-23							
23 FEB	-13	23	-84	-50	-83	-58	-125	-56							
2 MAR	-101	18	56	47	-4	-33	4	-2							
9 MAR	2	60	18	15	42	-33	-58	7							
16 MAR	-158	-317	-82	-31	-123	-226	-6	-135							
23 MAR	-18	94	258	29	26	20	49	65							
30 MAR	212	52	-24	-17	-18	-1	46	36							
6 APR	34	21	53	33	48	44	76	44							
13 APR	71	23	8	16	17	20	93	36							
20 APR	43	22	-32	-62	-29	43	83	10							
27 APR	111	31	32	39	13	-109	-37	11							
4 MAY	42	39	20	11	-7	-63	-24	2							
11 MAY	8	39	3	1	3	31	26	16							
18 MAY	61	112	113	41	18	77	48	67							
25 MAY	21	18	30	29	54	61	18	33							
1 JUN	28	44	17	16	86	143	136	67							
8 JUN	106	89	89	129	70	72	55	87							
15 JUN	134	100	89	74	78	67	86	90							
22 JUN	93	28	26	-1	6	8	23	18							
29 JUN	54	53	97	63	105	39	22	53							
6 JUL	15	8	33	63	81	81	95	54							
13 JUL	29	15	23	18	2	2	13	14							
20 JUL	18	28	29	8	25	107	100	45							
27 JUL	80	86	86	50	55	72	51	69							
3 AUG	18	48	72	64	-8	46	65	44							
10 AUG	87	121	78	58	54	32	-5	61							
17 AUG	11	37	54	38	107	-13	32	38							
24 AUG	44	38	-17	-32	-85	-42	-3	-15							
31 AUG	8	58	78	101	96	-1	22	43							
7 SEP	93	120	71	44	7	-1	7	49							
14 SEP	23	41	59	59	12	-2	2	28							
21 SEP	-2	-3	11	63	75	17	8	24							
28 SEP	60	26	-5	-34	-100	-72	-25	-21							
5 OCT	-41	-2	-54	-447	-265	-115	12	-130							
12 OCT	31	9	-35	-13	-136	-39	-49	-33							
19 OCT	-22	1	93	53	32	-177	-100	-26							
26 OCT	-89	-73	-155	-178	34	-41	-35	-75							
2 NOV	-86	-153	-118	-47	-293	-24	-28	-106							
9 NOV	-17	68	-134	-307	-308	-397	-98	-169							
16 NOV	-34	5	-74	-303	-44	-132	-158	-105							
23 NOV	-29	19	-5	95	125	57	-38	32							
30 NOV	-152	-114	-165	-173	13	2	-18	-87							
7 DEC	-19	-4	18	43	66	16	98	31							
14 DEC	-16	-5	1	-3	-30	-70	-324	-64							
21 DEC	-289	-136	-237	-53	-349	-304	-96	-209							
28 DEC	-88	-14	127	74	3	-68	-186	-19							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1976 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	-162	-7	-57	-147	-78	-26	-182	-93							
11 JAN	-56	-15	-109	-133	-39	-2	18	-59							
18 JAN	58	-58	-132	-78	4	53	15	-19							
25 JAN	-38	-202	-63	-48	14	-19	-37	-56							
1 FEB	1	21	91	126	43	-8	-52	33							
8 FEB	-41	29	-9	-206	-38	-131	-42	-61							
15 FEB	-126	-11	-183	-65	22	-18	-184	-81							
22 FEB	-43	-36	-187	-98	-88	-83	-28	-70							
29 FEB	21	-14	95	48	23	5	18	18							
7 MAR	17	37	95	39	64	6	-18	25							
14 MAR	1	-27	-121	-108	-44	-46	-47	-55							
21 MAR	-191	-19	-282	-108	-77	-56	-55	-104							
28 MAR	52	-39	8	85	3	-18	21	19							
4 APR	14	-38	-191	-112	-58	-172	5	-70							
11 APR	18	11	27	-6	113	-11	8	22							
18 APR	8	-25	44	2	-2	-102	8	-18							
25 APR	83	141	42	-4	-78	-28	33	28							
2 MAY	91	25	23	109	85	59	43	55							
9 MAY	-18	-4	1	11	155	81	97	39							
16 MAY	6	32	41	39	17	27	17	26							
23 MAY	3	-16	-2	-38	25	-4	-98	-17							
30 MAY	-6	9	13	68	67	54	78	38							
6 JUN	77	37	27	14	16	-29	28	24							
13 JUN	23	14	5	64	54	58	82	42							
20 JUN	75	48	43	38	75	78	45	55							
27 JUN	14	18	8	-13	-8	-4	-28	-3							
4 JUL	-3	-14	-22	-88	-11	4	3	-17							
11 JUL	28	15	95	83	65	121	111	65							
18 JUL	41	-14	3	1	13	8	67	17							
25 JUL	89	158	117	106	51	22	28	88							
1 AUG	12	16	28	19	68	25	9	23							
8 AUG	28	34	27	28	22	-7	-1	19							
15 AUG	-6	-18	-7	14	-6	45	48	11							
22 AUG	17	-23	15	17	-15	3	28	6							
29 AUG	21	41	48	27	37	25	8	28							
5 SEP	44	44	28	43	23	8	6	28							
12 SEP	-13	-53	61	118	34	22	43	38							
19 SEP	12	-7	1	8	3	1	-12	1							
26 SEP	-52	-75	18	86	67	8	42	14							
3 OCT	27	8	3	25	-71	-49	-12	-18							
10 OCT	4	25	18	23	18	8	24	15							
17 OCT	24	-8	-22	-6	17	21	-29	1							
24 OCT	-131	-2	-18	-35	8	2	-145	-47							
31 OCT	-82	-24	-56	-27	-6	8	-62	-37							
7 NOV	-43	-51	-83	-137	-35	-17	-143	-73							
14 NOV	-168	-68	-91	-8	2	12	-98	-56							
21 NOV	-4	1	-7	-8	71	62	18	19							
28 NOV	8	-15	-18	-13	7	19	14	-1							
5 DEC	-8	-4	-62	-28	18	-9	-19	-15							
12 DEC	-82	-39	-115	-126	-148	-28	-34	-82							
19 DEC	-135	-52	-65	-13	13	-88	-245	-85							
26 DEC	-189	-36	-264	-87	-1	-15	-137	-93							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1977 AT 45N, 125W

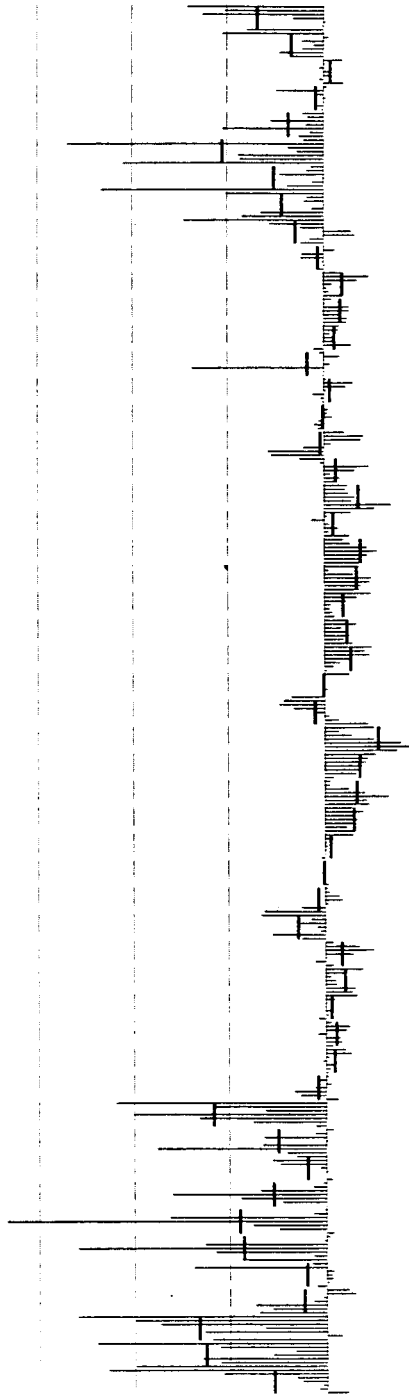
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	-82	29	13	15	-23	2	-18	-8							
9 JAN	-99	-69	-95	-15	-53	-75	-58	-57							
16 JAN	-125	-84	-13	-35	-41	36	8	-38							
23 JAN	-28	-7	-15	-28	-28	-7	-38	-17							
30 JAN	-182	-71	-8	-72	-246	-168	-136	-125							
6 FEB	-184	-191	-42	-147	-184	-114	-98	-129							
13 FEB	-8	-18	-36	-13	-7	-59	-238	-52							
20 FEB	-371	-237	-28	-28	11	-65	-72	-111							
27 FEB	-87	8	63	4	86	-9	-24	7							
6 MAR	-188	-335	-253	33	-21	-149	6	-138							
13 MAR	14	-38	22	127	83	8	98	39							
20 MAR	3	-18	-33	-31	31	11	2	-4							
27 MAR	136	84	85	107	126	157	82	115							
3 APR	64	34	2	-6	-48	-36	-13	1							
10 APR	-7	8	-18	79	-15	9	48	14							
17 APR	22	72	52	-19	-178	-164	-38	-34							
24 APR	3	-45	-24	8	-3	-3	13	-7							
1 MAY	8	-69	7	-8	49	18	18	2							
8 MAY	98	64	46	14	-8	8	18	22							
15 MAY	64	75	16	5	5	-28	32	25							
22 MAY	98	8	3	-87	-52	-52	8	-28							
29 MAY	5	-51	-2	19	3	-133	-34	-28							
5 JUN	-1	54	198	165	147	83	55	91							
12 JUN	68	69	78	73	64	68	78	68							
19 JUN	93	1	6	85	15	37	89	39							
26 JUN	49	78	133	197	186	99	45	101							
3 JUL	29	17	17	24	42	68	53	34							
10 JUL	18	68	73	68	84	87	56	63							
17 JUL	24	49	48	44	63	75	86	54							
24 JUL	59	24	13	16	18	9	32	23							
31 JUL	93	86	188	78	52	34	48	69							
7 AUG	46	52	33	62	69	59	98	58							
14 AUG	23	21	14	17	15	33	97	23							
21 AUG	93	9	2	-58	-24	8	-19	-7							
28 AUG	-9	7	53	19	4	-41	-26	1							
4 SEP	4	43	99	72	181	112	91	66							
11 SEP	89	32	44	47	1	-13	-186	14							
18 SEP	-98	-56	-3	21	-12	-6	-28	-25							
25 SEP	1	11	18	26	17	18	74	21							
2 OCT	99	56	19	-4	-17	-5	21	24							
9 OCT	13	-18	-12	3	18	-31	-28	-7							
16 OCT	83	11	18	26	-28	-122	-335	-58							
23 OCT	-87	-243	-26	-14	-187	-118	-182	-121							
30 OCT	-24	-63	-189	2	-51	-288	27	-82							
6 NOV	-18	55	-46	-178	-269	-168	-273	-127							
13 NOV	-168	-73	3	38	49	48	-3	-16							
20 NOV	-198	-58	-56	-218	-158	-168	-41	-116							
27 NOV	-61	-118	8	-4	-67	-134	-4	-54							
4 DEC	23	-262	-97	33	-9	-131	-335	-111							
11 DEC	-216	-263	-224	-148	-67	-29	2	-135							
18 DEC	-13	-234	-648	-911	-133	-27	-14	-197							
25 DEC	-6	-16	-83	-144	-44	1	-59	-58							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1978 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-208	-289	-226	-248	-124	-78	-356	-217							
8 JAN	-218	-71	-6	-81	-189	-964	-298	-177							
15 JAN	-118	-116	-52	-938	-48	-162	-92	-123							
22 JAN	8	-22	-21	1	-2	-26	-1	-10							
29 JAN	-7	-55	-189	-186	-148	-189	-317	-133							
5 FEB	-276	-946	-251	-411	-12	34	-156	-203							
12 FEB	-189	-31	-57	-16	-69	-46	-43	-64							
19 FEB	-24	-41	-31	-9	-14	-55	5	-24							
26 FEB	12	8	22	27	-1	-59	-11	-8							
5 MAR	-28	-952	-185	25	42	24	86	-55							
12 MAR	-6	58	5	-27	-93	-4	16	8							
19 MAR	22	17	28	-18	-189	-218	-24	-44							
26 MAR	1	1	-1	24	78	35	-6	19							
2 APR	-68	-87	-188	-88	42	49	68	-29							
9 APR	38	128	187	88	7	-6	8	53							
16 APR	-27	-84	-26	-32	-17	-63	-38	-48							
23 APR	-36	-93	6	32	38	41	-3	-3							
30 APR	21	13	75	82	78	52	88	57							
7 MAY	44	59	68	-34	-26	-69	-183	-9							
14 MAY	-82	19	31	88	188	52	89	43							
21 MAY	88	19	47	9	-48	-48	-28	5							
28 MAY	87	128	124	86	25	11	18	78							
4 JUN	96	15	9	25	12	-18	-27	7							
11 JUN	-32	-15	-12	39	38	43	79	18							
18 JUN	87	65	68	55	48	12	18	48							
25 JUN	27	89	66	49	18	25	97	42							
2 JUL	48	36	16	35	87	88	58	51							
9 JUL	184	36	91	34	29	49	58	47							
16 JUL	51	117	118	87	48	31	48	69							
23 JUL	76	59	14	8	48	51	56	44							
30 JUL	86	189	69	59	74	84	84	82							
6 AUG	184	48	17	44	22	-23	-5	28							
13 AUG	16	18	44	38	27	14	4	22							
20 AUG	5	16	-29	-154	-148	-128	-12	-63							
27 AUG	-13	4	18	9	-28	-79	-8	-12							
3 SEP	1	8	25	4	-5	-262	-123	-58							
10 SEP	-21	-9	1	39	18	53	43	17							
17 SEP	63	48	-6	-9	-24	-45	-8	1							
24 SEP	-6	-35	-82	-28	-1	-9	18	-22							
1 OCT	46	18	44	39	8	-26	-38	14							
8 OCT	-35	7	7	57	81	5	-55	18							
15 OCT	-28	18	28	-7	-8	32	26	18							
22 OCT	-22	-3	68	6	3	9	18	18							
29 OCT	11	38	-6	-26	-13	-38	49	3							
5 NOV	5	-32	-29	61	89	139	65	42							
12 NOV	-3	2	-64	-258	-48	3	-181	-66							
19 NOV	6	-14	14	1	-1	-6	1	8							
26 NOV	-29	-62	-22	-12	-12	44	-4	-14							
3 DEC	-29	72	85	48	-16	-144	-57	-7							
10 DEC	-295	23	-14	-59	-9	-13	-291	-94							
17 DEC	-31	18	-42	-67	-29	-21	-14	-28							
24 DEC	48	58	8	61	25	7	-18	25							
31 DEC	-78	-169	-188	-248	-211	-89	-146	-168							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1979 AT 45N, 125W

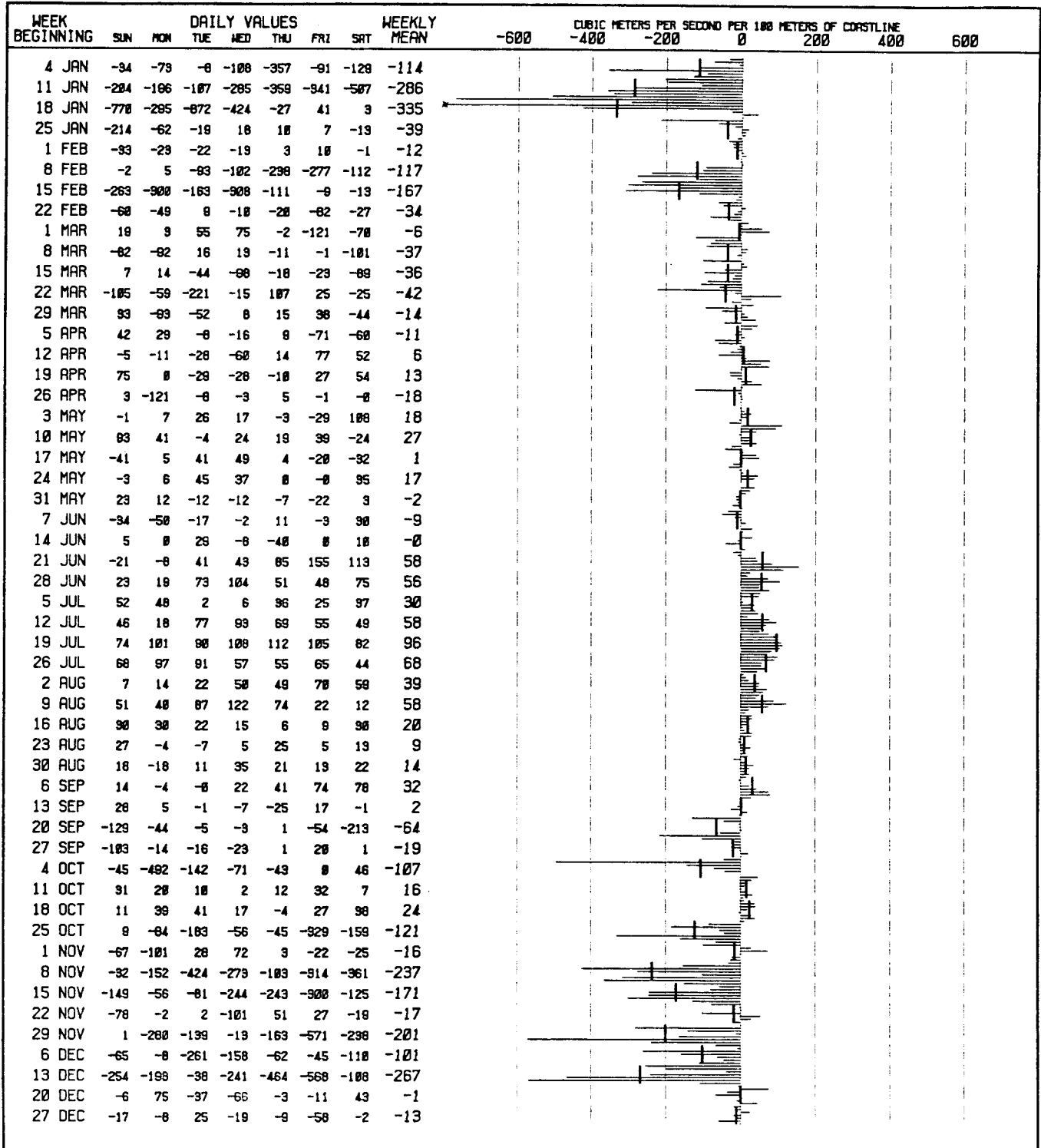
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
7 JAN	-282	-204	-251	-69	4	-1	-155	-136							
14 JAN	-288	18	-43	-28	-43	-91	-66	-66							
21 JAN	99	1	-8	17	15	-8	41	14							
28 JAN	8	-85	-15	4	8	-18	-4	-16							
4 FEB	-41	-31	-107	-35	-288	-29	-51	-72							
11 FEB	-42	-535	-71	-54	-175	-172	-417	-218							
18 FEB	-26	-39	-89	-2	-22	-74	-465	-181							
25 FEB	-283	-39	-48	1	-24	-128	-168	-85							
4 MAR	-291	-118	-48	56	63	-28	-45	-58							
11 MAR	-8	22	-44	-47	-2	1	-12	-12							
18 MAR	48	82	67	18	5	18	99	39							
25 MAR	16	2	52	52	98	48	45	35							
1 APR	92	29	12	17	23	57	-21	21							
8 APR	-7	32	-1	19	-271	1	-2	-34							
15 APR	4	59	45	9	-22	-7	-1	12							
22 APR	-1	8	5	17	-18	-28	-12	-2							
29 APR	48	79	75	15	-41	-115	-187	-8							
6 MAY	-58	-8	98	61	12	39	27	24							
13 MAY	46	42	58	61	57	136	182	71							
20 MAY	54	6	-26	11	28	8	58	19							
27 MAY	98	59	87	108	88	72	73	74							
3 JUN	71	8	58	94	82	74	78	67							
10 JUN	95	66	44	11	12	16	28	38							
17 JUN	45	69	39	42	49	38	57	47							
24 JUN	96	89	92	52	32	17	5	54							
1 JUL	51	8	-2	-9	5	-1	-68	-2							
8 JUL	-85	-82	-64	-17	8	28	87	-19							
15 JUL	188	29	55	188	155	177	149	189							
22 JUL	184	89	84	75	78	63	18	72							
29 JUL	11	18	49	82	138	86	98	65							
5 AUG	55	78	62	65	55	44	57	59							
12 AUG	58	15	1	5	3	1	-6	11							
19 AUG	1	1	-2	-6	-4	-2	7	-1							
26 AUG	4	8	28	35	6	-48	-129	-13							
2 SEP	-138	-28	-58	-15	-18	-189	-48	-56							
9 SEP	16	78	98	56	1	-28	16	34							
16 SEP	76	39	11	18	23	59	54	48							
23 SEP	64	17	8	8	8	5	-14	12							
30 SEP	18	48	42	-16	91	32	14	23							
7 OCT	99	59	6	-6	17	7	5	17							
14 OCT	4	-12	18	-22	-64	-52	24	-16							
21 OCT	-495	-232	-124	-481	-261	-151	-28	-232							
28 OCT	13	-22	-126	9	-191	-358	-81	-99							
4 NOV	-59	-118	-83	-19	2	1	11	-37							
11 NOV	-7	-25	-193	-918	-175	-91	-1	-187							
18 NOV	-3	-25	-323	-865	-158	-85	14	-178							
25 NOV	7	-5	-258	-518	-229	-26	-165	-169							
2 DEC	-31	-273	15	9	12	9	-21	-41							
9 DEC	44	59	-7	-27	-146	-118	-199	-47							
16 DEC	-517	-399	-346	-126	-253	29	-236	-264							
23 DEC	-477	-228	-64	-111	-256	-228	-399	-258							
30 DEC	-454	-219	-63	-58	-7	-17	41	-189							



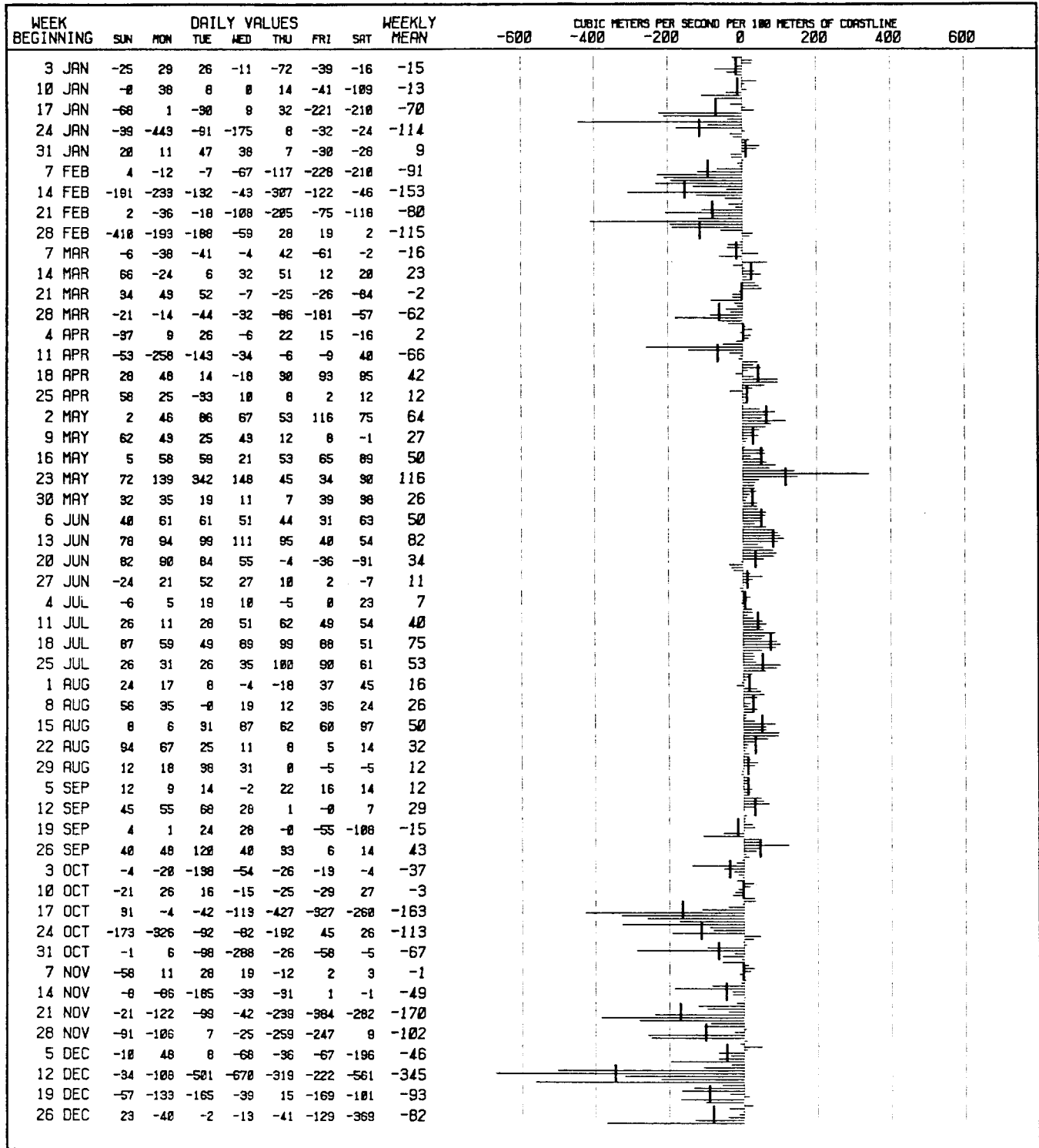
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1980 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	91	-9	-41	6	-95	-510	-164	-102							
13 JAN	-96	-59	-151	29	85	18	-68	-25							
20 JAN	-95	-16	-21	0	96	32	14	2							
27 JAN	17	-5	-17	-201	-476	-903	-291	-182							
3 FEB	-44	-100	-238	-96	-5	-54	-24	-73							
10 FEB	-14	-26	-9	-5	-43	-117	-238	-65							
17 FEB	-249	-112	17	-4	-20	-29	-299	-100							
24 FEB	-184	-968	-315	-291	-85	-114	-32	-198							
2 MAR	3	16	-40	-11	-3	1	26	-1							
9 MAR	4	21	19	-370	-72	-21	-5	-62							
16 MAR	-100	-0	52	-10	14	88	70	16							
23 MAR	52	-6	11	41	-0	-15	62	21							
30 MAR	29	120	60	7	-44	-100	-199	-17							
6 APR	-96	-165	-201	-64	-0	-23	-10	-73							
13 APR	-93	-70	0	-16	-27	-130	-19	-51							
20 APR	117	89	15	-11	-10	-43	22	25							
27 APR	23	80	83	54	53	148	20	66							
4 MAY	-26	-10	10	26	-12	0	65	9							
11 MAY	57	27	90	24	0	0	60	31							
18 MAY	23	-1	7	23	0	106	105	39							
25 MAY	63	31	20	60	135	146	101	81							
1 JUN	152	31	6	10	3	-14	-32	22							
8 JUN	-10	9	17	24	96	35	97	20							
15 JUN	25	96	85	97	90	17	10	52							
22 JUN	-4	-57	-29	9	22	57	131	18							
29 JUN	127	101	60	19	-31	2	26	42							
6 JUL	60	79	42	12	-3	44	81	44							
13 JUL	66	90	90	77	137	106	66	73							
20 JUL	84	19	75	123	90	114	156	96							
27 JUL	151	158	95	100	59	41	73	97							
3 AUG	101	114	72	50	69	66	47	75							
10 AUG	23	49	70	130	80	55	56	60							
17 AUG	70	56	64	80	80	73	70	73							
24 AUG	117	39	21	27	2	-2	0	30							
31 AUG	21	9	91	10	9	-6	-12	0							
7 SEP	100	64	92	51	20	61	99	54							
14 SEP	-1	7	11	17	-5	-49	15	-1							
21 SEP	12	20	50	53	2	-7	-19	17							
28 SEP	-60	-39	10	47	-50	-39	-56	-27							
5 OCT	-72	-9	19	100	0	-36	-5	2							
12 OCT	-97	-32	25	37	11	-6	-0	-10							
19 OCT	-29	17	96	-48	-265	-104	-21	-59							
26 OCT	-20	-20	-99	-24	-256	-449	-141	-137							
2 NOV	-135	-190	-214	-230	-314	-224	-69	-198							
9 NOV	-0	-4	-5	-71	-172	-1	-83	-51							
16 NOV	-111	-52	-24	-21	-151	-79	-0	-64							
23 NOV	12	-97	-24	-190	-39	-162	-81	-83							
30 NOV	-95	-116	-76	19	-17	-7	19	-30							
7 DEC	-13	-22	-00	-171	-81	-46	-119	-76							
14 DEC	-105	-13	-2	2	-20	-131	-223	-71							
21 DEC	-306	-54	-315	-320	-342	-397	-54	-257							
28 DEC	-106	-119	-26	-5	-86	-226	-00	-93							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1981 AT 45N, 125W



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 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1982 AT 45N, 125W



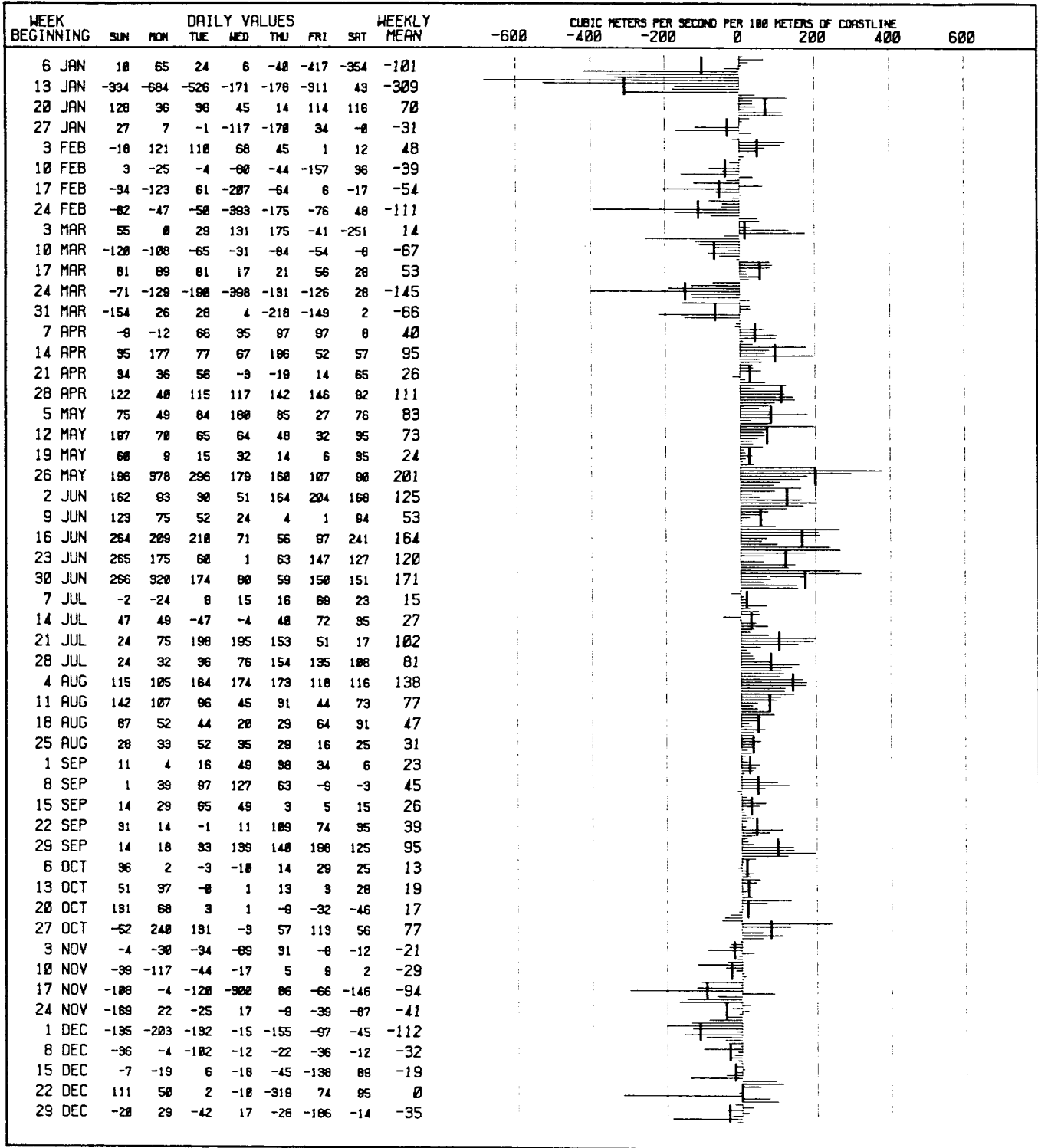
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1983 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	-168	-247	-129	-51	-107	-139	11	-118							
9 JAN	-181	-45	-79	-20	-6	-50	-125	-61							
16 JAN	-119	-904	-295	9	-19	-131	-203	-162							
23 JAN	-486	-914	-687	-187	-49	-918	-45	-298							
30 JAN	-188	-118	-187	-39	-32	-66	-268	-182							
6 FEB	-119	-38	-228	-229	-424	-488	-172	-239							
13 FEB	-82	-186	-226	-342	-229	15	-385	-193							
20 FEB	-42	-231	-318	-48	-78	-187	-49	-134							
27 FEB	1	-55	-35	-34	26	12	-42	-18							
6 MAR	-217	-181	-521	-131	-38	-136	-281	-283							
13 MAR	-298	-36	-65	-178	-21	9	-18	-77							
20 MAR	-38	-55	-71	-48	74	-21	-178	-48							
27 MAR	-58	-189	-221	-74	-37	-154	-18	-186							
3 APR	53	75	29	26	186	32	-23	42							
10 APR	-8	44	51	9	-3	17	14	19							
17 APR	-2	12	9	25	-15	-78	-4	-8							
24 APR	-5	-14	-28	-1	8	17	45	2							
1 MAY	11	6	9	-3	-6	-76	-58	-15							
8 MAY	15	21	53	48	98	44	18	32							
15 MAY	48	32	25	97	118	129	86	74							
22 MAY	49	29	24	65	54	6	-8	32							
29 MAY	4	91	147	95	62	99	74	82							
5 JUN	62	83	83	22	-52	-18	11	29							
12 JUN	8	-2	-3	11	-6	-16	-3	-3							
19 JUN	21	24	8	1	8	1	11	18							
26 JUN	27	38	7	9	-81	-27	-8	-6							
3 JUL	-16	49	43	14	16	23	5	18							
10 JUL	-2	-18	-22	-3	52	51	43	15							
17 JUL	23	25	18	-7	26	88	83	34							
24 JUL	49	18	-13	-17	14	26	33	16							
31 JUL	58	21	8	21	7	9	38	22							
7 AUG	26	31	68	68	28	61	53	47							
14 AUG	82	115	78	188	78	61	68	82							
21 AUG	43	32	95	15	1	8	-11	17							
28 AUG	-51	-78	-16	-2	-12	15	32	-15							
4 SEP	74	48	39	25	11	-32	-51	16							
11 SEP	17	33	41	75	48	53	18	48							
18 SEP	65	61	28	-48	-18	6	18	17							
25 SEP	5	47	86	67	48	23	21	42							
2 OCT	24	7	42	25	32	18	2	22							
9 OCT	4	7	8	6	25	25	3	18							
16 OCT	-31	8	-48	-38	-51	-116	-4	-39							
23 OCT	5	-53	-35	-18	18	-7	-69	-24							
30 OCT	-17	-115	-238	-241	-113	-17	-388	-168							
6 NOV	-31	-11	-249	-145	-735	-289	-218	-228							
13 NOV	-311	-437	-362	-384	-175	-78	-167	-262							
20 NOV	47	22	-88	-124	-9	12	-75	-31							
27 NOV	5	18	-69	-21	-32	-2	41	-9							
4 DEC	-31	-13	-35	-418	-164	-48	-122	-117							
11 DEC	-15	-321	-28	9	-3	-39	-36	-62							
18 DEC	-3	28	28	6	-27	-54	-188	-29							
25 DEC	-169	-38	-28	-272	-313	-111	-72	-144							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1985 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-140	-52	-101	-66	-134	-201	-124	-117							
13 JAN	-202	-90	-97	-58	-26	-48	-4	-67							
20 JAN	49	-4	-89	-98	-5	11	1	-19							
27 JAN	2	19	48	23	27	38	2	22							
3 FEB	1	-6	3	-81	-42	-10	-55	-28							
10 FEB	-326	-298	1	-148	-184	8	24	-131							
17 FEB	24	3	13	15	14	23	5	14							
24 FEB	47	24	53	47	53	206	115	78							
3 MAR	-18	-67	-51	-17	-18	-60	-2	-34							
10 MAR	45	65	66	31	46	16	-12	39							
17 MAR	11	18	-11	-35	-64	-109	-256	-64							
24 MAR	-15	-67	-148	-88	68	-66	-68	-56							
31 MAR	-97	8	29	58	92	58	-27	16							
7 APR	-11	32	8	-52	-78	-12	23	-13							
14 APR	85	59	48	-2	34	9	-6	31							
21 APR	1	-78	4	31	-8	-48	1	-12							
28 APR	5	8	8	-18	-52	-23	5	-11							
5 MAY	17	28	28	-4	15	56	11	19							
12 MAY	-2	45	184	74	8	2	25	35							
19 MAY	28	23	4	-9	2	41	103	27							
26 MAY	86	18	13	5	3	13	2	28							
2 JUN	-7	-17	4	-8	-28	24	88	8							
9 JUN	79	9	28	29	-5	15	139	42							
16 JUN	117	48	67	178	177	109	169	122							
23 JUN	146	95	75	87	76	9	-11	68							
30 JUN	1	15	3	12	-8	23	24	18							
7 JUL	3	5	5	28	75	109	188	46							
14 JUL	115	184	181	88	68	43	62	82							
21 JUL	88	92	89	112	115	98	72	94							
28 JUL	98	97	19	2	5	11	59	42							
4 AUG	66	9	8	9	28	83	119	46							
11 AUG	93	108	26	38	27	18	18	44							
18 AUG	93	44	46	27	26	12	44	33							
25 AUG	84	72	44	8	-18	-14	8	27							
1 SEP	17	41	72	82	25	8	-2	35							
8 SEP	7	7	1	-77	-153	-49	2	-38							
15 SEP	9	14	44	36	41	44	68	35							
22 SEP	49	44	55	28	16	7	4	28							
29 SEP	9	11	6	22	48	25	5	17							
6 OCT	64	29	32	-2	-38	7	1	13							
13 OCT	-1	2	3	17	-1	-37	-143	-23							
20 OCT	-263	-265	-114	-36	-62	-28	-171	-134							
27 OCT	-6	5	-37	-6	-55	-69	-18	-27							
3 NOV	1	23	-19	9	26	26	-3	8							
10 NOV	18	19	-18	-128	-318	-128	22	-75							
17 NOV	78	7	-4	15	8	9	-16	13							
24 NOV	1	-3	-4	-41	-11	15	-58	-13							
1 DEC	-428	-405	-312	-229	-166	-111	-82	-247							
8 DEC	27	36	11	-24	-14	-19	-43	-4							
15 DEC	-58	-34	-41	-58	-119	-126	-82	-72							
22 DEC	-39	-63	-115	-125	-61	-48	-57	-71							
29 DEC	-6	-13	-147	-56	-142	-183	-383	-122							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1974 AT 42N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1975 AT 42N, 125W

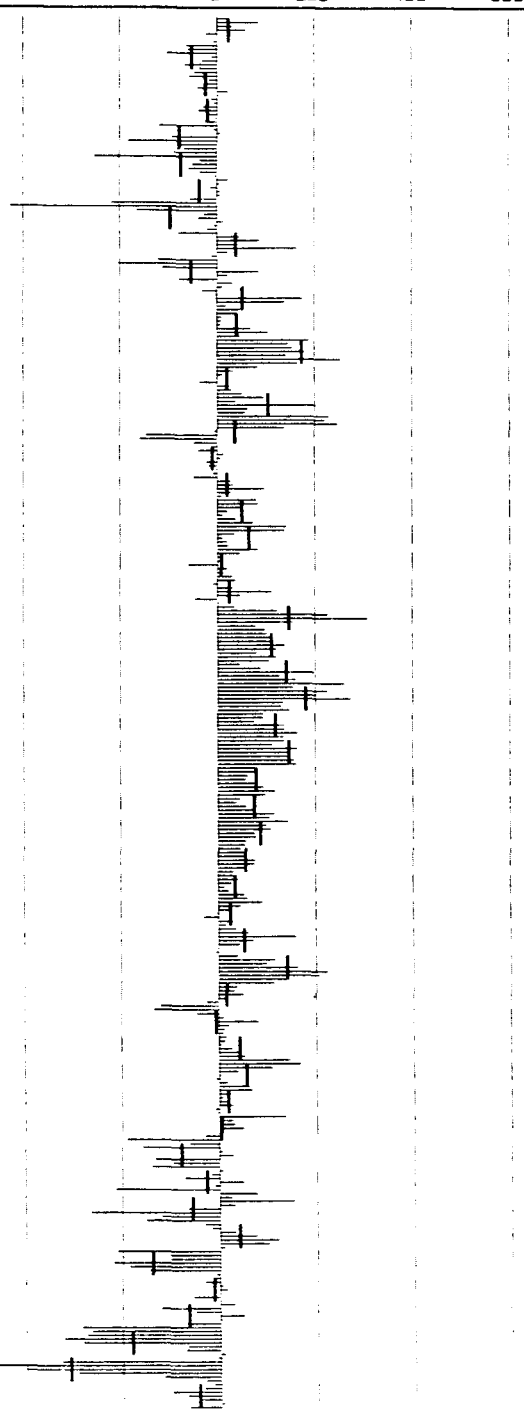
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE					
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400
5 JAN	-198	9	-197	98	-28	98	-46	-32						
12 JAN	-74	-57	-41	-29	-9	-9	-7	-32						
19 JAN	8	46	-26	-62	-15	-19	72	0						
26 JAN	181	84	44	34	-89	-147	-85	-8						
2 FEB	-74	-184	-37	-285	-355	-30	-193	-155						
9 FEB	-85	-23	-399	-286	97	41	84	-83						
16 FEB	117	-5	-88	1	53	-54	-67	-5						
23 FEB	-13	22	-27	-23	-114	-168	-232	-78						
2 MAR	-95	-7	21	43	-21	-98	16	-19						
9 MAR	8	112	198	37	122	19	-68	52						
16 MAR	-81	-955	-98	32	-55	-284	14	-186						
23 MAR	-63	11	457	89	63	56	86	100						
30 MAR	284	176	23	15	-5	-9	61	79						
6 APR	186	28	58	78	85	89	143	86						
13 APR	198	62	8	37	45	28	171	69						
20 APR	122	81	-16	-51	-5	84	151	52						
27 APR	168	185	83	114	67	-42	74	82						
4 MAY	181	81	58	48	-4	-82	-95	23						
11 MAY	44	69	18	14	27	145	168	68						
18 MAY	163	284	314	122	74	141	183	183						
25 MAY	52	65	115	85	123	72	28	77						
1 JUN	29	91	188	98	162	298	333	158						
8 JUN	244	136	186	173	125	163	128	152						
15 JUN	232	247	191	142	185	184	167	178						
22 JUN	121	76	52	14	62	48	83	65						
29 JUN	111	181	68	111	157	22	5	82						
6 JUL	11	11	58	89	121	162	249	98						
13 JUL	124	39	26	98	24	8	25	41						
20 JUL	94	78	87	41	67	288	168	94						
27 JUL	137	151	218	138	113	116	156	146						
3 AUG	188	82	181	181	42	118	164	124						
10 AUG	183	199	128	185	81	58	8	112						
17 AUG	18	49	189	111	193	51	41	72						
24 AUG	98	87	8	-17	-18	-7	26	25						
31 AUG	55	153	173	142	22	-8	93	81						
7 SEP	161	173	88	58	17	1	2	78						
14 SEP	11	33	57	88	13	7	28	33						
21 SEP	3	14	61	148	148	35	24	61						
28 SEP	184	26	-3	-25	-68	-18	2	3						
5 OCT	-3	28	-22	-418	-314	-138	-8	-122						
12 OCT	58	18	1	4	-32	-32	25	5						
19 OCT	22	14	77	189	78	-62	-156	11						
26 OCT	4	-51	-231	-325	62	13	-6	-76						
2 NOV	-26	-55	-185	-14	-132	23	28	-41						
9 NOV	-99	181	-26	-134	-322	-911	-28	-187						
16 NOV	29	48	-28	-283	-16	-83	-76	-68						
23 NOV	3	43	62	127	287	188	21	98						
30 NOV	-144	-56	-46	-157	-25	-9	-23	-66						
7 DEC	-8	-8	6	55	58	165	155	61						
14 DEC	7	-2	18	3	-15	-48	-262	-43						
21 DEC	-227	-43	-118	-26	-251	-182	-25	-126						
28 DEC	-17	48	153	149	28	-24	-98	34						

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1976 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	-126	8	-6	-118	-41	15	-89	-51							
11 JAN	-25	-1	-118	-77	-15	-8	43	-27							
18 JAN	116	-68	-99	-95	19	111	48	14							
25 JAN	-7	-78	-47	-34	22	-14	26	-26							
1 FEB	13	36	133	229	152	18	-18	80							
8 FEB	11	158	15	-86	-27	-58	-91	-3							
15 FEB	-182	-24	-46	-31	58	-3	-241	-56							
22 FEB	-87	-1	-187	-128	-85	-81	17	-67							
29 FEB	63	14	73	146	68	12	29	58							
7 MAR	42	55	82	69	128	28	-7	56							
14 MAR	14	-9	-64	-34	-12	7	-6	-14							
21 MAR	-41	18	-143	-34	-8	48	8	-22							
28 MAR	81	6	24	182	28	-8	78	57							
4 APR	54	-49	-192	-138	-75	-215	-4	-88							
11 APR	13	16	112	39	241	45	93	78							
18 APR	42	6	98	19	97	-21	85	37							
25 APR	184	221	58	-9	-58	-18	48	63							
2 MAY	121	168	76	247	278	118	78	153							
9 MAY	2	23	83	58	222	288	78	188							
16 MAY	78	138	135	182	94	85	59	99							
23 MAY	99	42	78	15	182	58	3	53							
30 MAY	4	23	53	184	185	155	143	188							
6 JUN	127	46	53	49	93	-8	58	51							
13 JUN	146	126	85	171	191	68	118	117							
20 JUN	115	111	166	174	168	218	183	151							
27 JUN	63	58	24	17	5	6	-5	23							
4 JUL	8	1	3	-15	25	58	18	13							
11 JUL	77	95	128	131	113	142	193	117							
18 JUL	188	28	73	56	46	34	118	64							
25 JUL	167	247	182	135	88	34	24	125							
1 AUG	15	18	13	14	82	45	25	32							
8 AUG	71	89	78	46	73	7	-3	51							
15 AUG	-14	-22	-24	14	18	68	68	15							
22 AUG	12	-21	95	69	21	51	68	33							
29 AUG	68	71	75	128	136	88	59	87							
5 SEP	183	185	127	59	23	25	26	88							
12 SEP	-1	-5	139	178	38	28	63	62							
19 SEP	14	2	5	26	26	7	-13	18							
26 SEP	-82	-118	29	86	65	27	53	8							
3 OCT	88	64	27	12	-71	-18	1	16							
10 OCT	98	71	12	6	7	6	14	21							
17 OCT	18	-4	-11	5	27	58	2	14							
24 OCT	-62	28	11	-12	2	8	-67	-13							
31 OCT	-77	-21	-26	-14	-7	-1	-56	-29							
7 NOV	-54	-84	-113	-157	-36	-2	-147	-85							
14 NOV	-114	-35	-31	-6	28	15	-52	-28							
21 NOV	18	21	-3	9	58	137	21	35							
28 NOV	-9	-23	-13	-8	5	48	181	14							
5 DEC	95	5	-12	6	65	8	-43	9							
12 DEC	-75	-22	-52	-54	-138	-12	-28	-53							
19 DEC	-99	-24	-26	-17	15	-69	-249	-67							
26 DEC	-96	-38	-252	-146	3	-5	-85	-87							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1977 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	21	85	93	58	-21	0	-6	24							
9 JAN	-63	-61	-101	-10	-31	-67	-37	-53							
16 JAN	-46	-57	-16	-27	-41	23	2	-23							
23 JAN	-12	-7	-28	-38	-21	-3	-25	-19							
30 JAN	-119	-7	6	-92	-102	-82	-67	-77							
6 FEB	-88	-251	-34	-49	-57	-35	-3	-74							
13 FEB	21	4	-12	6	6	-56	-216	-35							
20 FEB	-426	-164	-25	-39	12	-7	-21	-96							
27 FEB	-78	43	86	38	162	19	-11	37							
6 MAR	-128	-202	-112	85	21	-78	90	-54							
13 MAR	18	-29	-1	177	196	10	46	51							
20 MAR	98	11	8	6	69	104	45	40							
27 MAR	107	146	154	188	148	253	163	175							
3 APR	81	32	18	-1	-95	25	28	20							
10 APR	49	89	97	202	62	56	228	104							
17 APR	219	246	196	-5	-144	-158	-48	35							
24 APR	-11	-38	11	5	-22	-17	-2	-11							
1 MAY	-8	-49	27	32	97	27	8	19							
8 MAY	78	82	46	28	18	36	72	49							
15 MAY	148	136	94	11	28	22	82	64							
22 MAY	43	8	8	-68	17	12	98	8							
29 MAY	96	-9	93	111	46	-45	2	25							
5 JUN	95	123	227	306	155	77	86	145							
12 JUN	181	108	113	136	118	79	118	110							
19 JUN	184	45	87	195	126	159	258	139							
26 JUN	153	225	189	272	192	128	147	179							
3 JUL	83	89	75	135	197	162	134	118							
10 JUL	196	111	162	144	148	156	168	145							
17 JUL	78	75	68	56	72	91	115	78							
24 JUL	96	44	96	57	71	115	104	75							
31 JUL	141	97	106	73	75	56	53	86							
7 AUG	45	58	56	77	75	52	28	56							
14 AUG	28	39	27	12	22	52	58	34							
21 AUG	89	44	28	-2	-29	29	15	24							
28 AUG	95	61	159	71	43	-9	-6	51							
4 SEP	97	114	88	162	222	207	196	139							
11 SEP	111	37	98	51	18	-24	-118	15							
18 SEP	-132	-45	18	81	21	18	7	-7							
25 SEP	15	12	3	27	42	52	147	42							
2 OCT	166	108	99	2	-6	16	61	55							
9 OCT	66	29	8	19	27	-7	-5	18							
16 OCT	135	27	98	49	3	-28	-188	4							
23 OCT	-61	-157	7	27	-138	-84	-137	-78							
30 OCT	7	-17	-78	48	-11	-212	77	-25							
6 NOV	24	153	91	-64	-265	-118	-148	-55							
13 NOV	-98	-17	29	77	118	89	8	41							
20 NOV	-211	-103	-102	-219	-187	-144	-5	-139							
27 NOV	-15	-38	5	14	-1	-59	2	-11							
4 DEC	98	-119	-58	48	3	-67	-285	-63							
11 DEC	-264	-274	-328	-281	-66	-71	18	-181							
18 DEC	-5	-326	-988	-398	-282	-116	-28	-308							
25 DEC	-14	-34	-97	-68	-48	5	-64	-45							

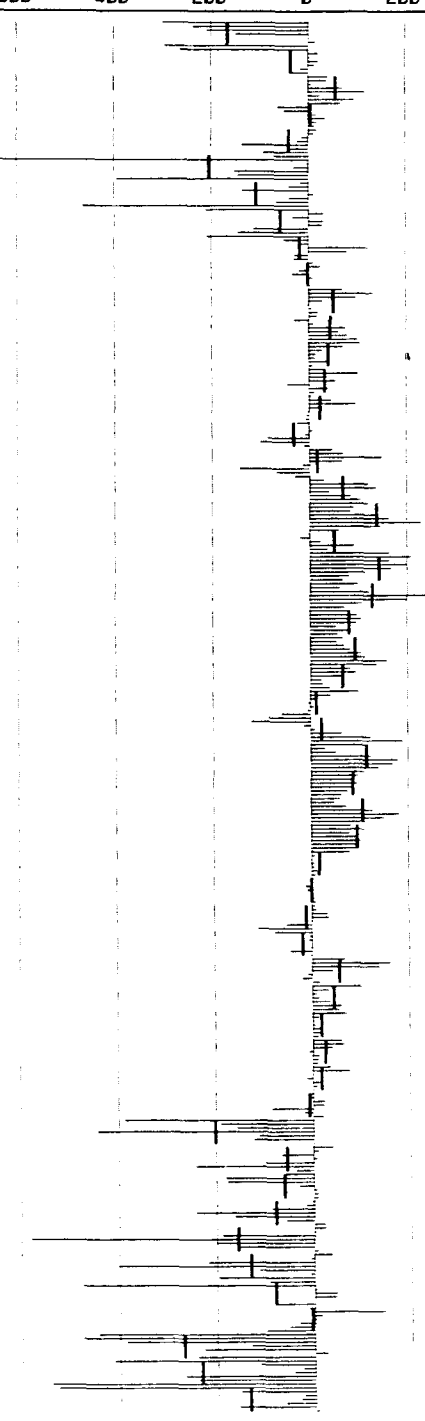


PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1978 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-251	-939	-222	-483	-225	-104	-377	-286							
8 JAN	-329	-95	-10	-126	-392	-518	-421	-262							
15 JAN	-932	-201	-75	-969	-27	-56	-21	-154							
22 JAN	13	-2	-11	-2	-1	-14	6	-1							
29 JAN	3	-25	-115	-227	-192	-148	-399	-148							
5 FEB	-928	-435	-266	-447	24	174	-158	-205							
12 FEB	-226	-6	-28	6	-52	-33	-15	-51							
19 FEB	-11	-16	-8	-7	-95	-86	3	-23							
26 FEB	93	18	92	14	-25	-148	-56	-18							
5 MAR	-2	-269	-188	91	119	31	146	-23							
12 MAR	42	78	24	-6	-24	-14	-1	13							
19 MAR	7	7	5	-22	-188	-118	-11	-34							
26 MAR	13	37	7	16	186	66	14	37							
2 APR	-41	-99	-45	-59	41	126	178	14							
9 APR	84	189	232	226	66	-11	24	104							
16 APR	-23	-82	-95	-39	12	-19	-14	-29							
23 APR	-68	-148	-4	33	49	107	99	2							
30 APR	79	146	182	251	283	171	171	172							
7 MAY	86	45	184	18	11	-28	-59	25							
14 MAY	-57	22	82	185	191	42	81	71							
21 MAY	195	134	99	16	-8	-1	17	64							
28 MAY	276	914	218	188	92	15	92	141							
4 JUN	55	26	91	91	83	36	14	48							
11 JUN	3	4	93	118	89	85	96	62							
18 JUN	84	92	185	72	77	37	97	72							
25 JUN	88	174	73	18	5	22	67	63							
2 JUL	86	188	68	118	178	156	152	124							
9 JUL	296	146	83	55	47	67	96	104							
16 JUL	151	282	221	169	95	34	96	141							
23 JUL	78	67	15	29	183	186	181	71							
30 JUL	183	246	165	123	148	200	218	183							
6 AUG	199	38	92	189	88	24	25	64							
13 AUG	49	71	82	95	182	74	95	73							
20 AUG	28	48	4	-143	-188	-26	2	-29							
27 AUG	2	42	66	44	1	-11	18	22							
3 SEP	6	19	93	23	4	-901	-158	-54							
10 SEP	-5	24	26	82	182	145	189	82							
17 SEP	142	85	17	8	3	-9	-3	34							
24 SEP	4	-49	-49	9	98	11	64	2							
1 OCT	197	78	85	74	9	-3	-5	52							
8 OCT	-18	21	48	111	187	-29	-43	30							
15 OCT	-2	25	93	-8	-2	32	79	22							
22 OCT	12	18	64	5	4	12	61	25							
29 OCT	67	117	17	-1	-8	-31	185	38							
5 NOV	77	8	-6	85	245	221	154	112							
12 NOV	-2	25	-44	-185	-45	5	-124	-53							
19 NOV	-31	-7	22	8	14	27	14	7							
26 NOV	3	-21	1	18	8	88	21	16							
3 DEC	-12	74	156	89	8	-198	-66	17							
10 DEC	-174	28	-1	-7	15	46	-189	-33							
17 DEC	-2	49	-18	-68	-3	-8	-1	-5							
24 DEC	48	47	-9	22	61	58	29	35							
31 DEC	-5	-115	-221	-292	-163	-26	-96	-131							

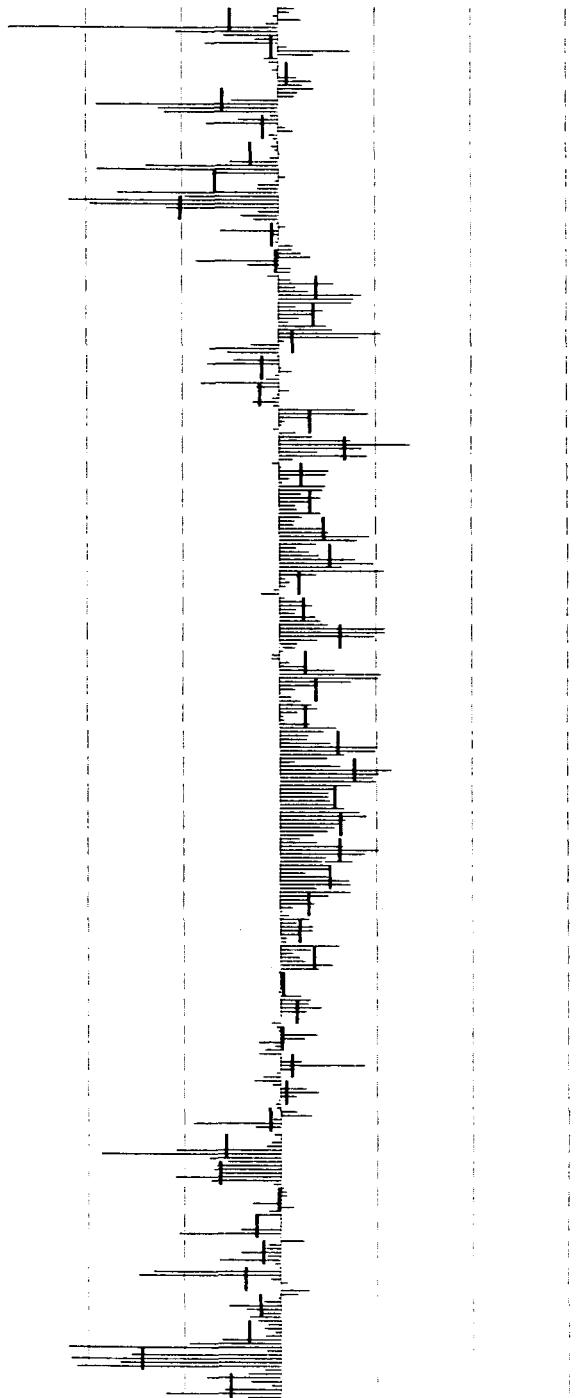
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1979 AT 42N, 125W

WEEK BEGINNING	SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN	-600	-400	-200	0	200	400	600
7 JAN	-299	-235	-208	-147	1	14	-283	-167							
14 JAN	-262	21	2	28	14	-16	-93	-36							
21 JAN	41	38	7	69	116	25	95	56							
28 JAN	67	-63	-51	16	93	16	12	4							
4 FEB	16	18	-13	-22	-196	-37	-93	-39							
11 FEB	-71	-634	-2	-38	-153	-144	-394	-204							
18 FEB	-16	-48	-196	18	-48	-65	-464	-108							
25 FEB	-213	98	-92	29	28	-112	-143	-59							
4 MAR	-288	-58	-14	122	78	-27	-28	-18							
11 MAR	8	24	-28	-34	8	-8	3	-2							
18 MAR	68	133	96	29	-2	4	18	49							
25 MAR	17	-28	11	76	68	79	98	45							
1 APR	186	71	27	19	13	48	6	39							
8 APR	98	188	95	54	-45	37	18	32							
15 APR	2	44	84	26	-3	-3	-7	22							
22 APR	-24	1	5	-8	-84	-188	-9	-32							
29 APR	47	68	148	67	-14	-142	-68	15							
6 MAY	-28	28	121	136	98	88	184	69							
13 MAY	118	98	84	142	161	227	143	138							
20 MAY	57	-2	-28	22	88	37	162	49							
27 MAY	288	161	188	165	113	88	67	142							
3 JUN	88	59	128	247	188	186	78	128							
10 JUN	81	86	184	89	52	76	55	88							
17 JUN	66	54	67	82	184	119	156	92							
24 JUN	136	82	82	63	23	24	48	66							
1 JUL	88	48	7	-4	7	-6	-57	12							
8 JUL	-85	-128	-14	8	62	122	187	23							
15 JUL	118	28	49	122	178	167	198	114							
22 JUL	189	95	87	84	84	74	62	86							
29 JUL	58	47	72	125	188	149	189	186							
5 AUG	79	188	77	89	181	97	87	93							
12 AUG	77	7	8	4	4	11	8	16							
19 AUG	4	1	-13	-7	-1	4	7	-1							
26 AUG	6	7	32	35	-8	-51	-188	-12							
2 SEP	-76	-4	-7	-8	-2	-43	-4	-28							
9 SEP	67	159	197	41	-9	-28	15	56							
16 SEP	89	34	7	19	97	61	53	43							
23 SEP	88	19	2	4	19	21	18	19							
30 SEP	58	63	48	-8	15	12	8	27							
7 OCT	96	77	-1	-13	13	8	2	17							
14 OCT	-4	-18	24	21	-85	-18	19	-7							
21 OCT	-385	-188	-156	-443	-112	-122	-1	-281							
28 OCT	48	9	-63	6	-88	-248	-36	-55							
4 NOV	-62	-188	-176	-29	7	7	7	-61							
11 NOV	-5	-16	-86	-241	-161	-55	22	-78							
18 NOV	22	-2	-188	-579	-199	-154	7	-156							
25 NOV	96	-7	-218	-482	-112	-8	-196	-138							
2 DEC	-92	-474	1	46	44	1	-81	-88							
9 DEC	-12	145	15	-2	-91	-53	-98	-5							
16 DEC	-442	-474	-385	-129	-227	26	-239	-267							
23 DEC	-411	-112	-25	-41	-266	-237	-537	-233							
30 DEC	-525	-152	-23	-29	-61	-156	6	-134							

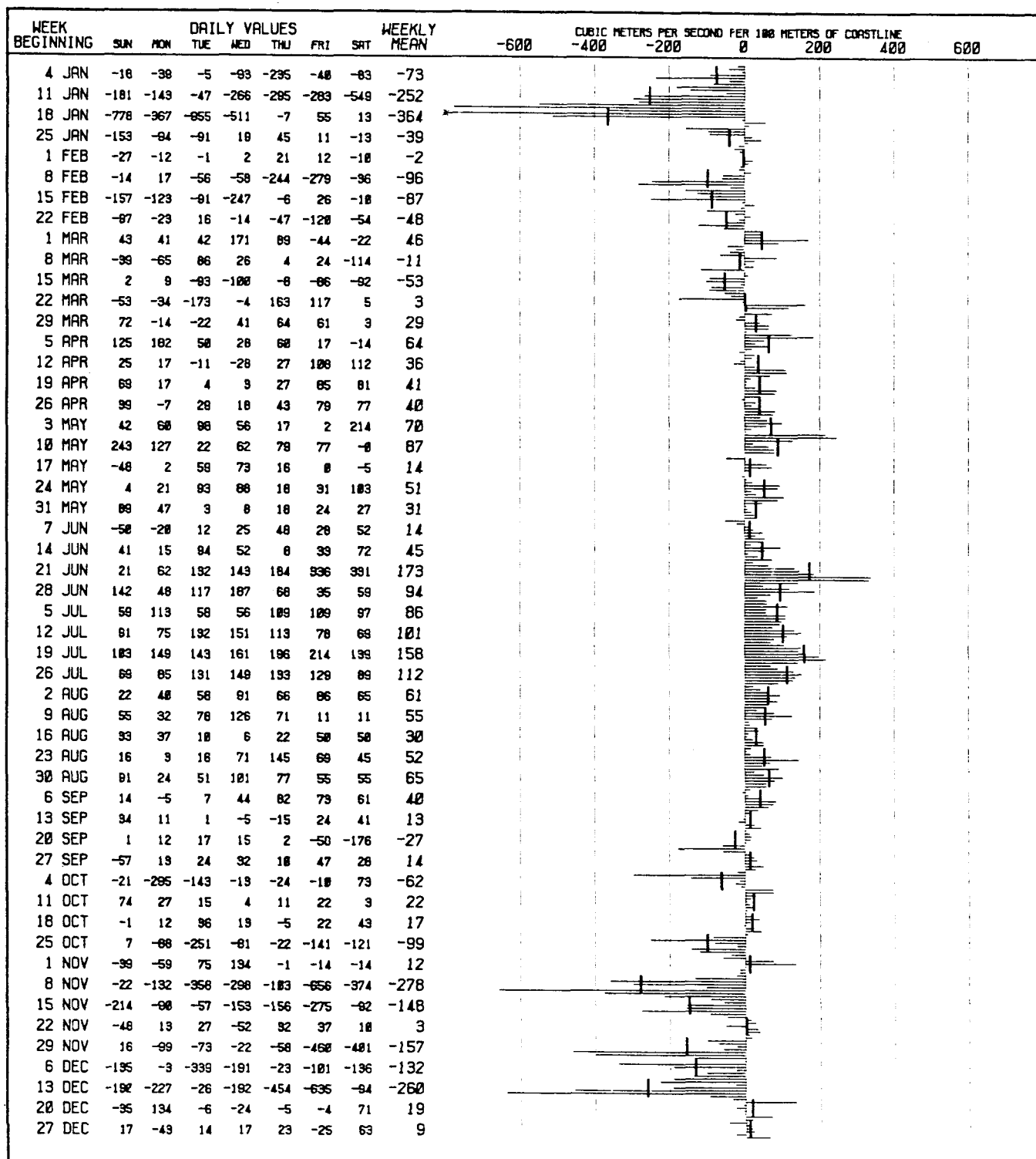


PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1980 AT 42N, 125W

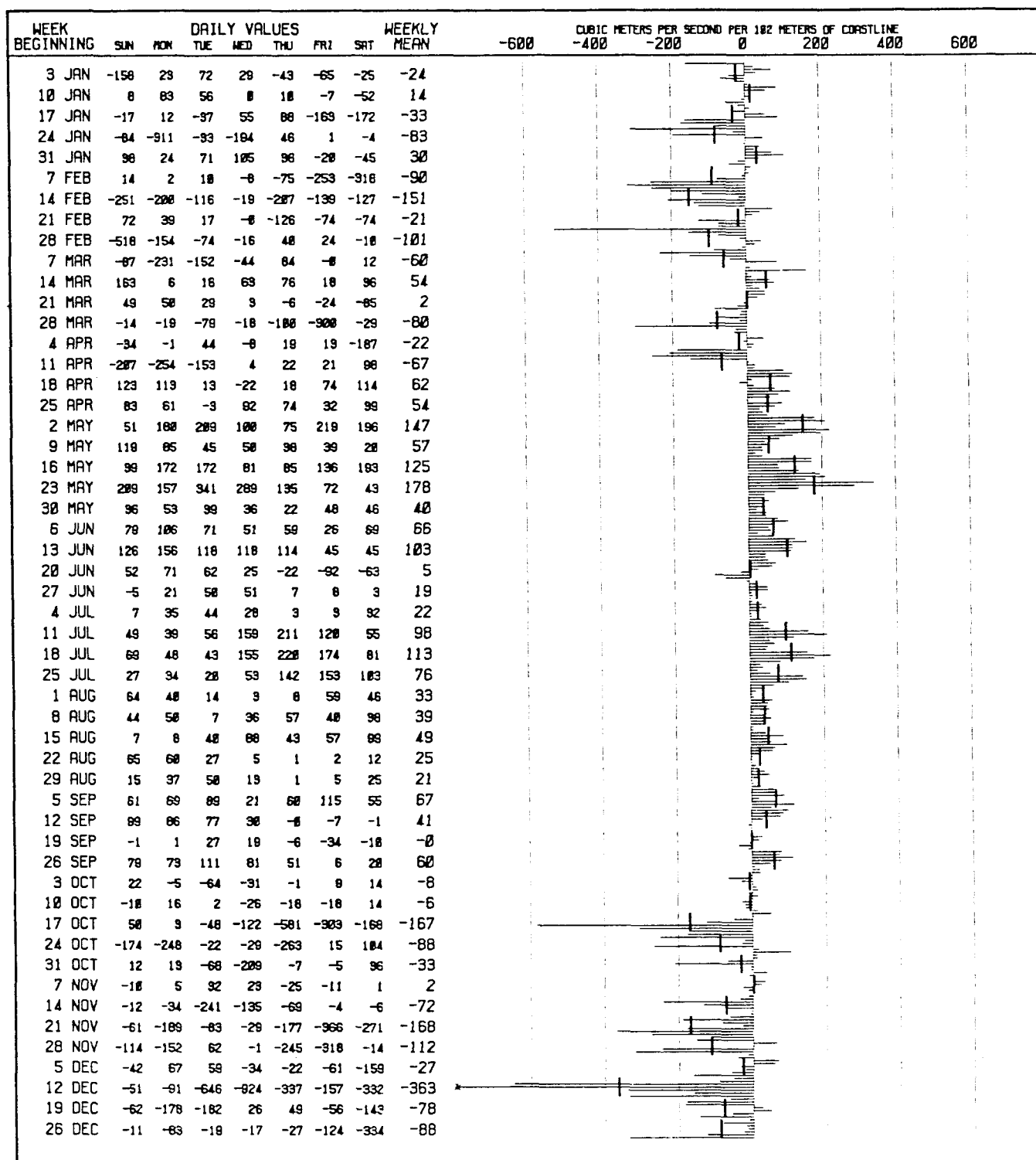
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	94	24	-11	47	-25	-568	-212	-100							
13 JAN	-111	-48	-151	18	149	79	-27	-14							
20 JAN	-18	9	-12	-2	97	78	49	18							
27 JAN	75	48	94	-86	-378	-249	-235	-116							
3 FEB	-17	-82	-147	16	91	-18	-18	-33							
10 FEB	-1	-14	-7	1	-17	-188	-273	-59							
17 FEB	-376	-136	15	-9	-41	-44	-334	-132							
24 FEB	-195	-435	-393	-232	-41	-77	-52	-204							
2 MAR	-3	15	-128	-11	8	-5	91	-13							
9 MAR	28	46	67	-178	-63	25	24	-6							
16 MAR	-21	24	115	34	62	172	156	77							
23 MAR	153	36	93	68	41	28	188	73							
30 MAR	113	212	167	19	-57	-144	-185	28							
6 APR	-4	-95	-149	4	28	-8	-25	-36							
13 APR	-163	-46	18	-4	-14	-54	-13	-39							
20 APR	158	185	63	19	4	-12	93	63							
27 APR	88	148	272	178	78	182	28	136							
4 MAY	-13	5	182	88	23	6	85	45							
11 MAY	88	46	85	67	95	37	86	64							
18 MAY	49	32	91	85	182	185	168	92							
25 MAY	75	34	59	88	156	185	128	104							
1 JUN	216	76	12	18	11	-12	-98	41							
8 JUN	8	44	68	33	92	79	83	49							
15 JUN	181	218	218	187	78	96	91	125							
22 JUN	8	-15	-18	21	58	115	218	54							
29 JUN	284	149	75	32	2	25	44	76							
6 JUL	66	78	96	8	18	61	116	54							
13 JUL	88	58	56	184	282	186	132	128							
20 JUL	88	98	125	231	285	181	188	154							
27 JUL	145	114	88	188	185	187	132	115							
3 AUG	164	178	136	125	112	188	71	127							
10 AUG	48	75	138	284	178	96	158	124							
17 AUG	182	184	52	88	145	145	77	183							
24 AUG	146	88	58	71	26	9	18	61							
31 AUG	58	32	68	86	96	12	13	41							
7 SEP	123	62	25	41	51	188	81	78							
14 SEP	-3	8	-8	2	-1	-9	43	6							
21 SEP	62	57	84	54	2	8	-17	35							
28 SEP	-8	-9	75	51	-43	-12	-31	4							
5 OCT	-45	2	43	174	28	-7	-83	23							
12 OCT	-53	-15	53	81	91	-4	-8	12							
19 OCT	-8	95	65	-15	-178	-53	1	-22							
26 OCT	-14	8	-18	-29	-216	-373	-148	-114							
2 NOV	-188	-132	-137	-123	-218	-144	-16	-126							
9 NOV	6	12	12	-4	-58	26	-24	-4							
16 NOV	-51	-9	1	-9	-83	-218	-2	-58							
23 NOV	48	-26	-91	-83	-29	-126	-13	-37							
30 NOV	-2	-261	-283	-28	14	8	68	-72							
7 DEC	85	-4	-83	-188	-72	-42	-66	-41							
14 DEC	-48	-25	-34	-12	-91	-121	-191	-66							
21 DEC	-443	-38	-388	-436	-335	-424	-34	-287							
28 DEC	-68	-155	-63	-28	-116	-238	-68	-184							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1981 AT 42N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1982 AT 42N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1983 AT 42N, 125W

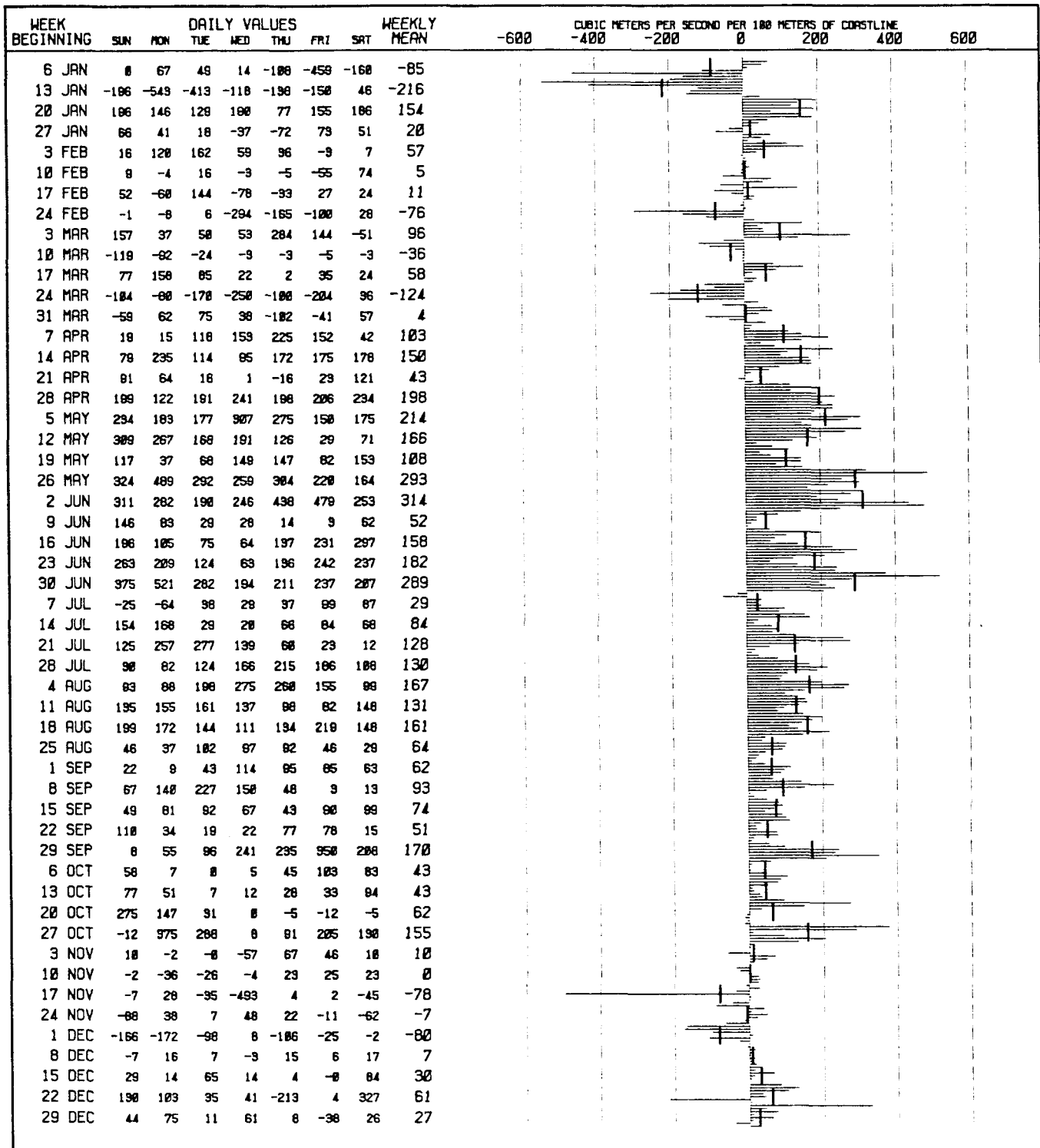
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	-157	-125	-122	-106	-106	-67	23	-94							
9 JAN	-6	-20	-62	-52	-16	-54	-112	-46							
16 JAN	-61	-419	-292	26	-51	-212	-309	-188							
23 JAN	-710	-203	-785	-975	-76	-912	-85	-364							
30 JAN	-112	-106	-101	-98	-11	-71	-225	-95							
6 FEB	-90	-68	-288	-222	-448	-582	-173	-268							
13 FEB	-87	-204	-256	-955	-324	27	-243	-206							
20 FEB	-88	-293	-357	-42	-79	-183	-81	-160							
27 FEB	-78	-243	-130	-160	4	8	-52	-94							
6 MAR	-286	-191	-545	-174	-18	-157	-251	-232							
13 MAR	-177	-16	-94	-209	-47	28	-18	-78							
20 MAR	-53	-72	-78	-124	84	-5	-181	-62							
27 MAR	-95	-196	-278	-63	-11	-85	22	-92							
3 APR	108	176	72	35	126	105	29	93							
10 APR	24	91	115	24	-3	-5	-4	35							
17 APR	-25	8	6	51	-8	-89	-9	-11							
24 APR	-5	-15	-32	-8	-7	5	95	-4							
1 MAY	16	8	18	-8	-28	-57	-22	-11							
8 MAY	93	46	118	69	55	108	54	70							
15 MAY	182	89	74	178	162	103	75	112							
22 MAY	32	12	19	62	49	2	6	26							
29 MAY	4	115	198	145	87	156	238	135							
5 JUN	212	144	98	32	-2	6	44	75							
12 JUN	94	4	3	55	11	28	33	23							
19 JUN	73	95	16	18	58	52	51	51							
26 JUN	47	44	16	28	-42	-27	2	10							
3 JUL	1	108	79	39	92	76	53	55							
10 JUL	48	19	4	47	186	138	87	76							
17 JUL	31	21	7	1	51	84	88	40							
24 JUL	61	33	21	4	96	71	65	42							
31 JUL	81	57	94	69	18	17	58	46							
7 AUG	43	65	68	72	58	65	27	57							
14 AUG	51	127	116	82	52	28	44	71							
21 AUG	98	22	42	26	8	-1	-8	17							
28 AUG	-19	-56	-98	-31	-13	50	73	-5							
4 SEP	124	109	61	89	54	6	4	64							
11 SEP	58	71	75	119	68	75	84	78							
18 SEP	88	71	-11	-55	-13	8	15	14							
25 SEP	9	34	128	133	48	13	23	56							
2 OCT	28	11	43	98	98	18	1	23							
9 OCT	-7	-13	-1	11	92	33	21	11							
16 OCT	-4	13	-2	-6	-6	-48	-1	-8							
23 OCT	18	-26	-25	-22	8	-12	-64	-20							
30 OCT	-98	-128	-172	-219	-153	4	-219	-130							
6 NOV	6	5	-252	-286	-624	-171	-228	-221							
13 NOV	-288	-408	-356	-296	-68	-76	-143	-232							
20 NOV	82	44	-118	-263	-26	23	-9	-37							
27 NOV	6	14	-115	-58	-2	9	173	4							
4 DEC	-11	-54	-187	-332	-141	-112	-81	-120							
11 DEC	18	-244	-25	8	-1	-56	-4	-45							
18 DEC	4	77	68	37	7	-35	-225	-10							
25 DEC	-182	-7	-3	-235	-242	-33	-41	-95							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1985 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-125	-29	-52	-15	-45	-105	-85	-65							
13 JAN	-170	-61	-27	-62	-45	-53	3	-59							
20 JAN	53	9	-69	-65	8	6	8	-9							
27 JAN	5	44	77	78	78	74	90	55							
3 FEB	28	12	3	-68	-92	5	-15	-17							
10 FEB	-290	-281	14	-78	-100	46	109	-84							
17 FEB	87	22	61	63	58	76	94	56							
24 FEB	59	124	102	72	91	297	290	139							
3 MAR	13	-4	-29	-26	-42	-100	-40	-44							
10 MAR	32	121	95	49	73	27	-44	50							
17 MAR	-20	57	6	19	1	-75	-134	-21							
24 MAR	14	-41	-147	-85	110	8	-24	-25							
31 MAR	-5	14	43	124	106	98	-42	40							
7 APR	4	32	2	-50	-28	7	34	0							
14 APR	52	40	93	20	49	29	-25	37							
21 APR	18	-19	37	95	45	6	16	28							
28 APR	19	24	15	-4	-99	18	53	12							
5 MAY	50	51	54	6	16	51	63	43							
12 MAY	22	64	198	58	-20	-4	32	50							
19 MAY	90	21	-2	-9	4	68	147	37							
26 MAY	124	27	6	4	8	12	-5	25							
2 JUN	-4	-10	2	-15	-83	15	140	7							
9 JUN	146	62	81	80	27	39	229	95							
16 JUN	167	29	50	147	207	122	164	126							
23 JUN	237	209	106	106	117	43	5	118							
30 JUN	16	4	2	8	2	40	17	13							
7 JUL	-8	4	5	39	89	127	177	63							
14 JUL	151	150	142	84	42	27	47	93							
21 JUL	53	65	129	148	100	53	35	84							
28 JUL	65	77	6	8	16	34	79	41							
4 AUG	96	40	25	44	82	96	171	79							
11 AUG	77	84	26	26	34	16	5	38							
18 AUG	11	51	68	54	22	9	35	36							
25 AUG	68	52	44	23	-1	7	16	30							
1 SEP	10	65	98	119	97	12	-1	48							
8 SEP	8	6	6	-51	-78	-31	11	-20							
15 SEP	91	22	56	77	56	73	90	58							
22 SEP	77	20	29	-1	-1	10	6	20							
29 SEP	9	19	23	47	64	7	5	25							
6 OCT	42	67	83	98	-8	17	34	39							
13 OCT	94	11	5	31	15	-14	-91	-1							
20 OCT	-287	-175	-135	-24	-33	8	-100	-96							
27 OCT	-8	64	4	10	1	-9	-1	11							
3 NOV	-8	47	18	11	34	57	5	25							
10 NOV	12	43	-8	-103	-280	-151	98	-65							
17 NOV	86	10	-11	21	15	-1	-38	12							
24 NOV	41	19	-2	-64	-2	92	-27	8							
1 DEC	-496	-474	-204	-210	-122	-151	-27	-241							
8 DEC	43	78	36	-19	-16	-20	-37	9							
15 DEC	-36	-30	-62	-65	-96	-81	-45	-59							
22 DEC	-33	-62	-133	-96	-28	-27	-33	-59							
29 DEC	-15	-2	-42	-39	-120	-123	-296	-91							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1974 AT 39N, 125W



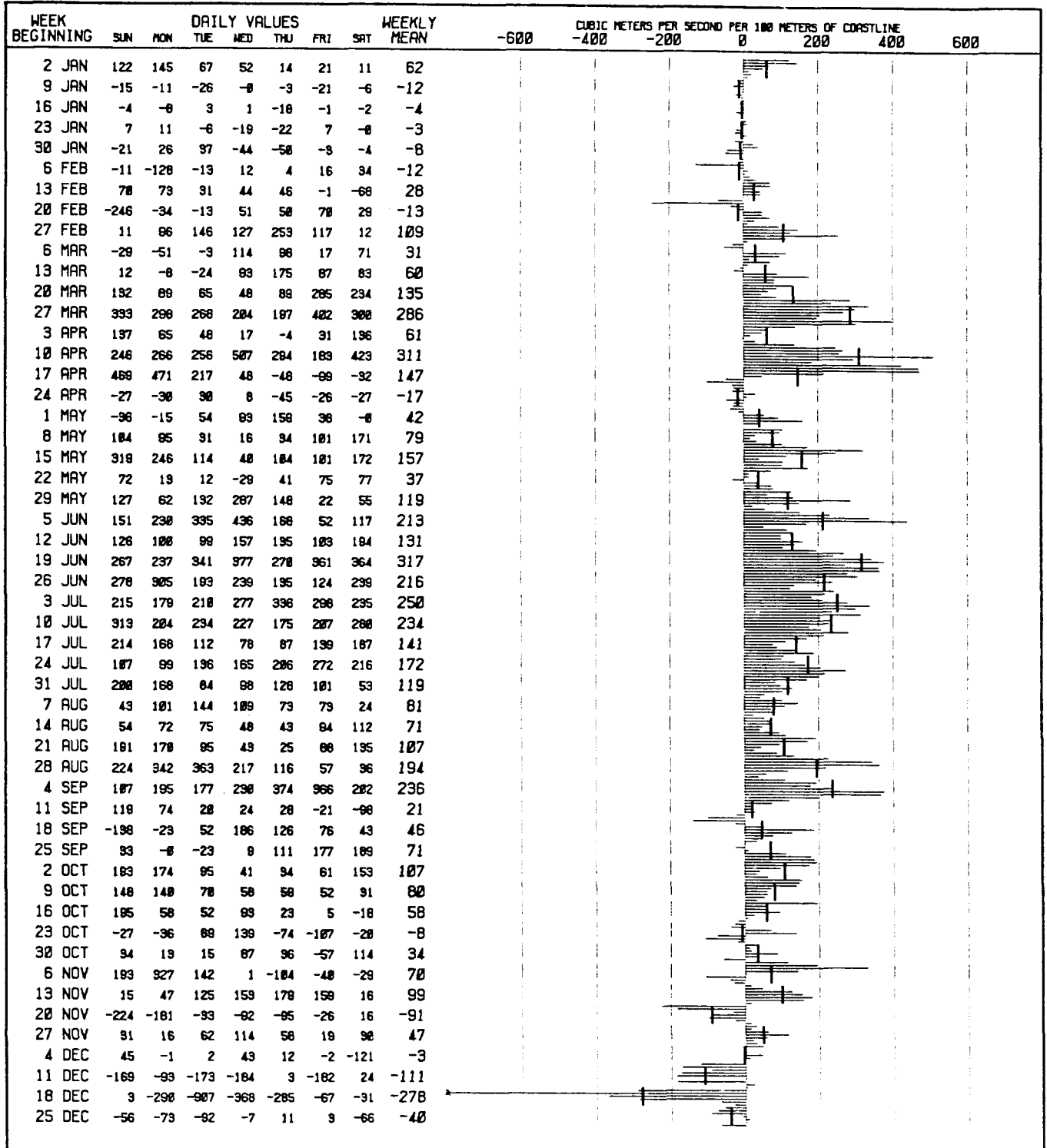
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1975 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
5 JAN	-8	38	97	144	54	35	8	44							
12 JAN	-4	-4	-4	2	8	14	21	5							
19 JAN	11	48	15	-2	12	11	96	19							
26 JAN	155	187	74	65	-8	-216	-83	23							
2 FEB	-44	-35	-1	-389	-274	-82	-183	-144							
9 FEB	-65	1	-193	-196	48	87	198	-24							
16 FEB	195	46	-11	45	81	-1	-6	51							
23 FEB	4	22	13	-2	-48	-164	-246	-60							
2 MAR	-29	-20	-21	-5	-127	-190	63	-47							
9 MAR	28	182	263	85	119	88	-65	84							
16 MAR	2	-168	-69	56	3	-42	82	-17							
23 MAR	-32	-7	556	238	83	45	88	140							
30 MAR	323	439	181	29	18	-9	22	132							
6 APR	155	47	51	127	151	165	236	133							
13 APR	215	81	-8	49	185	32	165	91							
20 APR	148	152	8	-41	95	128	262	98							
27 APR	246	182	188	329	285	56	188	190							
4 MAY	153	165	134	189	14	-58	-23	71							
11 MAY	188	142	58	18	64	252	287	134							
18 MAY	368	589	517	247	181	212	386	336							
25 MAY	113	159	268	218	186	88	25	152							
1 JUN	47	156	269	269	232	303	367	235							
8 JUN	366	211	198	144	196	231	159	197							
15 JUN	228	957	382	228	128	176	228	233							
22 JUN	223	114	66	48	193	183	178	142							
29 JUN	158	138	88	138	173	8	-17	97							
6 JUL	8	28	96	118	177	263	485	157							
13 JUL	286	183	12	115	88	28	51	98							
20 JUL	72	127	155	141	189	324	382	187							
27 JUL	294	223	298	238	188	127	272	235							
3 AUG	218	177	267	259	284	223	239	226							
10 AUG	388	221	118	149	153	182	55	157							
17 AUG	28	56	111	196	153	148	74	187							
24 AUG	178	145	48	8	16	42	91	74							
31 AUG	134	223	231	124	21	18	186	122							
7 SEP	283	168	53	62	84	52	18	91							
14 SEP	14	28	49	79	44	51	111	53							
21 SEP	118	128	165	242	168	74	75	138							
28 SEP	182	126	32	-1	-18	11	29	52							
5 OCT	25	72	21	-188	-217	-34	-7	-47							
12 OCT	52	58	52	44	12	16	196	53							
19 OCT	168	86	85	286	171	49	-96	184							
26 OCT	58	9	-191	-278	118	88	47	-11							
2 NOV	6	-9	-31	8	-6	58	88	17							
9 NOV	-44	85	8	-14	-86	-158	-8	-38							
16 NOV	86	119	11	-151	-3	-28	-28	3							
23 NOV	43	119	184	188	265	291	42	162							
30 NOV	-18	8	16	-1	-32	-183	-44	-26							
7 DEC	-8	5	4	41	31	279	168	75							
14 DEC	98	26	52	19	3	-12	-118	2							
21 DEC	-142	-1	-3	1	-38	-34	2	-31							
28 DEC	16	96	227	198	24	-5	-4	79							

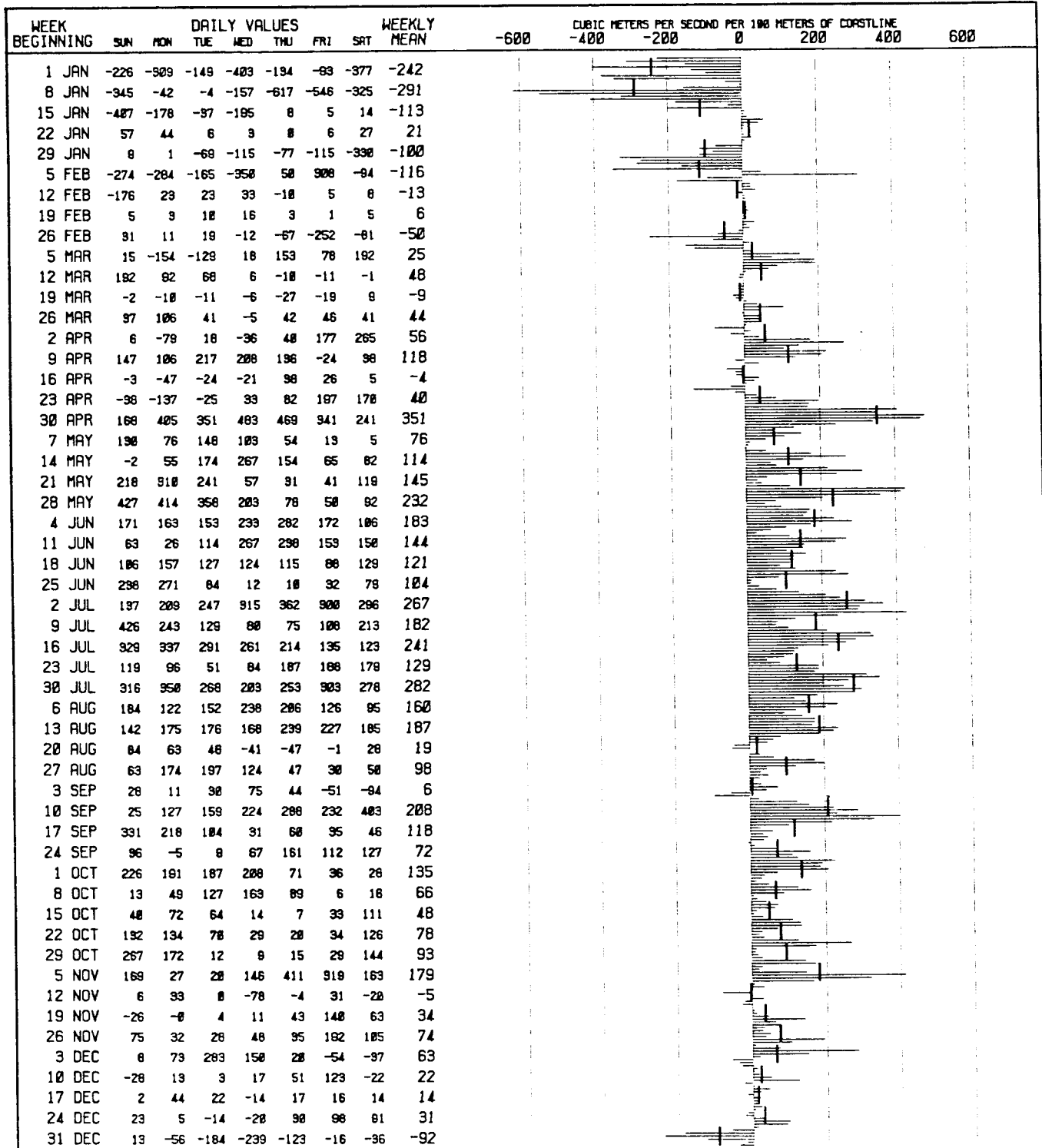
PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1976 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	-18	22	30	5	-13	36	-1	9							
11 JAN	5	9	-2	-9	6	11	71	12							
18 JAN	198	-8	-16	5	93	99	88	48							
25 JAN	13	-1	-4	-9	98	11	5	8							
1 FEB	96	49	188	187	58	-22	-11	57							
8 FEB	92	256	79	12	2	19	-8	56							
15 FEB	6	9	98	21	97	11	-208	-5							
22 FEB	-168	28	-34	-92	-42	-18	5	-45							
29 FEB	58	48	82	218	187	35	62	87							
7 MAR	72	49	97	137	163	97	52	95							
14 MAR	63	17	-7	8	33	41	47	29							
21 MAR	8	49	17	45	68	143	98	60							
28 MAR	166	184	96	179	81	6	46	87							
4 APR	57	-45	-237	-189	-62	-248	-28	-106							
11 APR	8	25	192	125	418	191	78	146							
18 APR	149	95	179	62	86	33	178	112							
25 APR	384	289	98	14	-8	2	75	118							
2 MAY	277	345	183	995	412	178	92	268							
9 MAY	24	68	213	119	248	992	189	177							
16 MAY	223	258	226	219	228	156	145	285							
23 MAY	123	124	259	161	325	249	186	192							
30 MAY	22	36	67	286	266	246	282	149							
6 JUN	142	37	23	59	78	24	189	66							
13 JUN	338	296	279	919	232	68	83	228							
20 JUN	134	185	355	945	261	282	175	248							
27 JUN	172	147	116	188	57	48	93	96							
4 JUL	96	31	78	58	116	149	118	83							
11 JUL	142	253	266	176	153	177	174	192							
18 JUL	287	168	218	155	118	118	228	171							
25 JUL	391	275	248	165	188	41	23	168							
1 AUG	99	37	2	29	188	84	82	56							
8 AUG	158	156	143	115	198	47	-3	188							
15 AUG	7	-11	-28	-12	76	81	52	25							
22 AUG	12	16	78	184	179	174	189	187							
29 AUG	114	142	198	914	293	154	164	196							
5 SEP	175	915	222	115	83	72	22	143							
12 SEP	24	54	168	187	48	61	128	96							
19 SEP	88	48	34	78	78	44	-5	54							
26 SEP	-116	-153	1	58	68	28	57	-12							
3 OCT	194	116	72	21	4	38	48	62							
10 OCT	127	146	53	21	97	24	28	61							
17 OCT	98	17	25	74	78	155	55	63							
24 OCT	22	114	98	25	95	27	-2	44							
31 OCT	-8	8	4	28	14	5	-3	5							
7 NOV	-27	-58	-54	-51	-4	8	-92	-38							
14 NOV	-28	8	3	19	76	27	-7	13							
21 NOV	18	58	3	27	66	176	27	52							
28 NOV	8	-2	5	14	29	78	188	43							
5 DEC	121	33	6	48	159	37	-14	54							
12 DEC	-12	1	6	-8	-57	-3	4	-9							
19 DEC	-12	14	4	-5	21	-7	-116	-15							
26 DEC	-13	2	-82	-184	-1	11	-54	-36							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1977 AT 39N, 125W

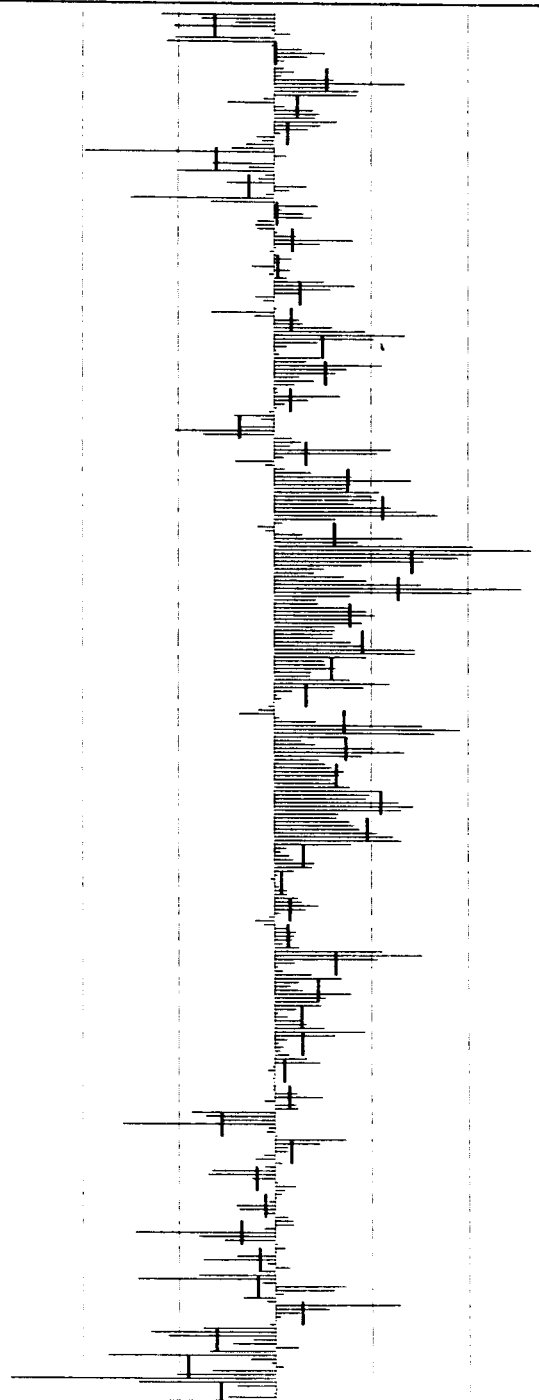


PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1978 AT 39N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1979 AT 39N, 125W

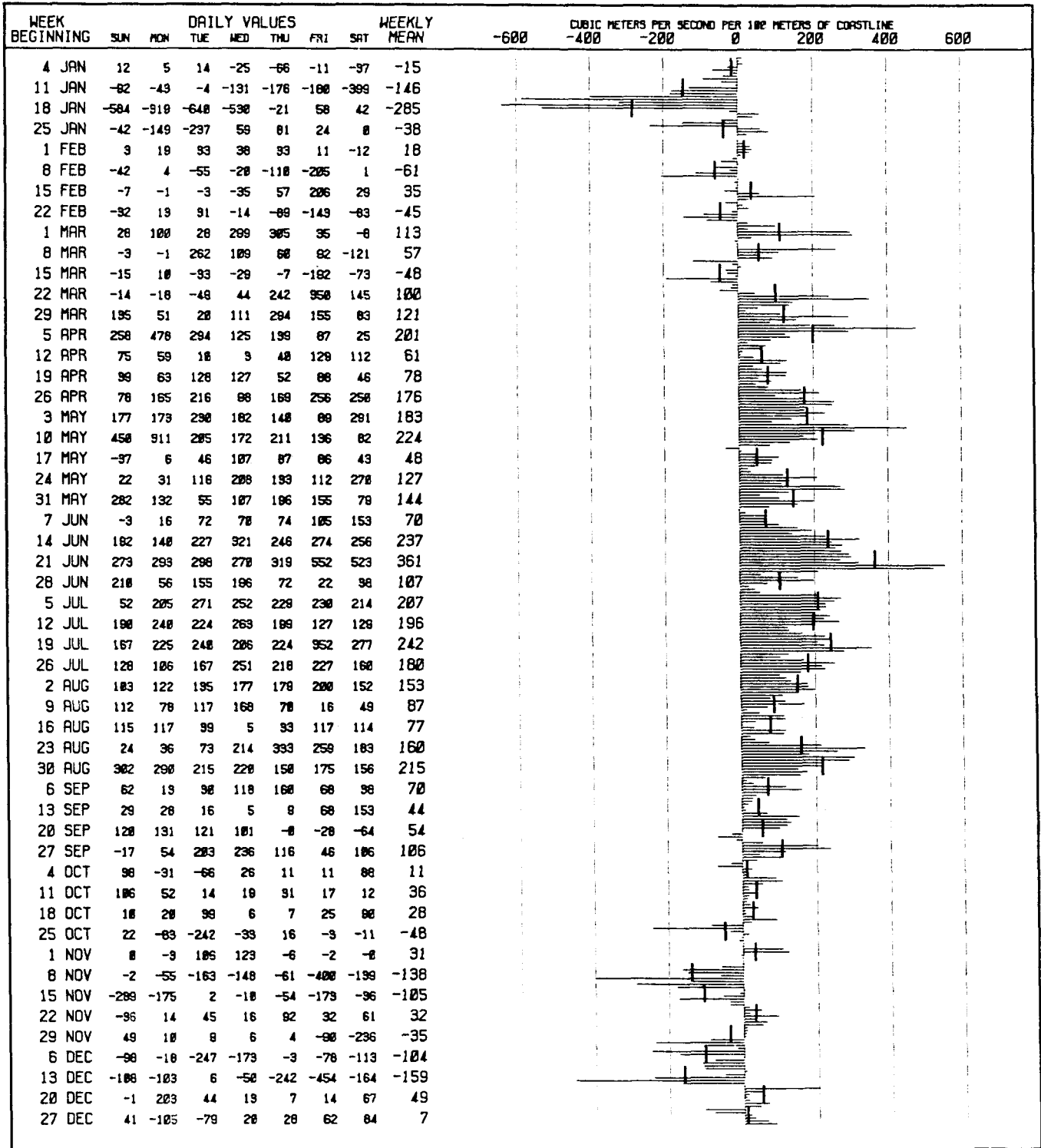
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE					
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400
7 JAN	-237	-151	-83	-209	-7	31	-207	-123						
14 JAN	-224	-6	56	104	69	20	1	3						
21 JAN	28	48	14	123	278	115	175	108						
28 JAN	171	-21	-95	19	88	94	84	47						
4 FEB	198	96	78	11	-36	-24	-58	27						
11 FEB	-88	-995	24	-1	-126	-53	-202	-120						
18 FEB	-18	-32	-98	68	91	-16	-298	-52						
25 FEB	-191	81	17	68	78	-34	-98	6						
4 MAR	-34	5	47	163	85	4	-8	39						
11 MAR	8	37	12	-46	94	-9	27	9						
18 MAR	183	165	115	57	-98	-22	-1	54						
25 MAR	4	-129	-48	52	68	121	188	37						
1 APR	271	206	98	27	5	18	94	100						
8 APR	67	222	158	126	52	81	42	106						
15 APR	6	8	197	71	23	5	-11	34						
22 APR	-83	-26	-2	-72	-287	-147	96	-71						
29 APR	55	32	241	219	28	-88	-17	66						
6 MAY	22	76	168	281	158	146	215	151						
13 MAY	188	212	165	238	282	936	125	224						
20 MAY	16	-34	-18	58	264	172	418	124						
27 MAY	538	405	388	988	188	181	82	284						
3 JUN	144	181	381	518	488	155	86	256						
10 JUN	88	158	188	288	152	188	124	156						
17 JUN	123	128	128	158	178	298	298	183						
24 JUN	188	182	186	127	76	75	156	119						
1 JUL	238	183	97	5	15	-9	-13	66						
8 JUL	-33	-72	8	86	384	983	331	144						
15 JUL	144	56	84	288	268	181	83	148						
22 JUL	185	118	143	135	117	121	156	128						
29 JUL	218	196	198	257	287	262	132	221						
5 AUG	128	157	164	176	211	247	262	192						
12 AUG	157	25	11	38	97	82	78	68						
19 AUG	48	6	-7	8	8	26	26	14						
26 AUG	48	56	98	69	13	-9	-41	31						
2 SEP	-22	25	45	41	97	16	58	27						
9 SEP	221	985	211	42	5	16	76	125						
16 SEP	197	51	32	58	157	186	86	98						
23 SEP	85	44	8	26	58	66	183	57						
30 SEP	186	124	26	8	17	19	91	58						
7 OCT	66	83	-3	-14	-8	-3	-2	28						
14 OCT	-5	-4	47	98	-28	44	48	38						
21 OCT	-172	-142	-188	-317	-13	-17	5	-188						
28 OCT	146	82	27	25	-23	-48	15	35						
4 NOV	-21	-138	-138	-49	7	41	21	-38						
11 NOV	12	1	-14	-81	-73	-18	27	-21						
18 NOV	97	38	-22	-291	-158	-185	4	-71						
25 NOV	18	1	-88	-148	-15	31	-38	-32						
2 DEC	-158	-286	-28	146	123	17	-66	-36						
9 DEC	-18	257	189	58	18	1	-12	57						
16 DEC	-149	-261	-222	-46	-88	45	-135	-122						
23 DEC	-348	-51	-7	17	-131	-285	-558	-182						
30 DEC	-287	-81	2	-4	-97	-224	-183	-114						



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1980 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-21	8	-11	55	-87	-325	-148	-76							
13 JAN	-84	-96	-86	27	117	151	12	11							
20 JAN	8	35	11	2	26	84	18	27							
27 JAN	15	65	102	-15	-172	-183	-107	-31							
3 FEB	-8	-30	-38	101	148	17	2	28							
10 FEB	7	-8	-22	8	-25	-134	-378	-79							
17 FEB	-428	-182	18	-102	-98	-57	-287	-153							
24 FEB	-181	-290	-327	-138	-16	-8	-52	-146							
2 MAR	-24	38	-183	-21	3	-32	-22	-36							
9 MAR	36	81	112	6	-35	28	58	41							
16 MAR	48	58	275	288	186	322	357	207							
23 MAR	353	254	218	127	186	178	211	216							
30 MAR	326	415	442	71	-58	-147	-21	147							
6 APR	23	-7	-34	48	197	48	-16	28							
13 APR	-85	14	88	26	13	29	7	18							
20 APR	176	261	178	48	34	11	8	102							
27 APR	88	231	448	484	138	171	66	232							
4 MAY	11	58	228	288	191	34	188	122							
11 MAY	185	48	132	194	86	174	244	142							
18 MAY	187	162	163	214	238	265	221	207							
25 MAY	168	82	88	55	115	207	168	124							
1 JUN	337	283	45	48	48	2	-15	186							
8 JUN	48	161	222	48	26	82	122	183							
15 JUN	243	378	335	287	198	86	68	228							
22 JUN	48	28	8	32	158	217	238	182							
29 JUN	188	162	186	38	41	68	63	96							
6 JUL	68	68	14	2	44	188	158	65							
13 JUL	122	124	87	128	273	387	227	183							
20 JUL	197	74	246	341	371	321	245	248							
27 JUL	124	75	183	164	218	268	258	173							
3 AUG	317	253	151	182	286	288	155	207							
10 AUG	113	288	388	284	384	236	291	247							
17 AUG	273	148	88	119	215	248	187	165							
24 AUG	82	138	162	152	122	25	74	188							
31 AUG	148	168	148	128	188	51	78	115							
7 SEP	141	185	73	58	135	285	183	148							
14 SEP	-14	-5	-1	-1	1	38	194	21							
21 SEP	282	132	117	58	28	22	23	83							
28 SEP	48	48	172	88	17	61	14	66							
5 OCT	2	26	191	254	86	24	-34	78							
12 OCT	14	45	197	182	65	18	14	68							
19 OCT	28	88	87	28	-33	2	18	28							
26 OCT	11	43	4	-12	-78	-168	-78	-38							
2 NOV	-31	-19	-13	-6	-33	-24	18	-16							
9 NOV	35	32	42	53	18	87	64	48							
16 NOV	-8	38	53	66	14	-46	3	18							
23 NOV	58	19	3	8	8	1	-1	11							
30 NOV	11	-248	-288	-118	36	19	41	-78							
7 DEC	85	17	2	-19	7	7	11	16							
14 DEC	18	12	-8	2	-8	-52	-64	-13							
21 DEC	-185	-4	-123	-257	-128	-212	-28	-133							
28 DEC	-16	-48	-8	-6	-74	-135	-27	-44							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1981 AT 39N, 125W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1982 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
3 JAN	-315	-21	78	65	8	-4	5	-26							
10 JAN	99	132	147	17	91	17	1	55							
17 JAN	11	30	-66	97	102	-26	-26	18							
24 JAN	-48	-151	6	-81	95	81	93	-7							
31 JAN	84	99	93	141	47	-17	-26	60							
7 FEB	8	10	11	16	-28	-192	-234	-58							
14 FEB	-178	-100	-41	-2	-13	-24	-23	-55							
21 FEB	118	169	125	88	-63	-96	-44	43							
28 FEB	-535	-141	-12	33	46	26	-55	-91							
7 MAR	-316	-321	-130	-75	106	104	17	-88							
14 MAR	190	29	5	63	65	14	30	57							
21 MAR	45	50	17	8	-8	-27	-48	6							
28 MAR	6	38	-146	-12	-70	-173	5	-50							
4 APR	5	11	96	-14	2	-28	-447	-62							
11 APR	-105	-159	-78	16	78	122	193	-2							
18 APR	288	222	28	5	11	20	42	88							
25 APR	44	39	25	212	283	80	58	96							
2 MAY	198	934	245	82	123	287	458	240							
9 MAY	256	145	116	88	72	107	126	130							
16 MAY	118	269	340	199	162	227	345	238							
23 MAY	325	157	265	930	237	127	53	213							
30 MAY	26	27	78	85	51	78	123	65							
6 JUN	121	146	132	89	110	31	100	105							
13 JUN	218	250	169	154	183	51	98	151							
20 JUN	97	67	41	15	-7	-76	-31	6							
27 JUN	15	29	51	96	17	24	25	37							
4 JUL	24	106	90	82	63	46	67	68							
11 JUL	148	139	178	276	356	200	58	191							
18 JUL	48	21	24	114	221	157	107	99							
25 JUL	69	74	98	162	238	237	217	155							
1 AUG	207	149	43	28	47	87	73	92							
8 AUG	81	126	74	93	122	55	41	84							
15 AUG	91	58	105	112	58	82	108	79							
22 AUG	53	53	77	31	13	10	9	35							
29 AUG	15	47	58	27	43	75	158	58							
5 SEP	164	247	275	119	93	912	298	215							
12 SEP	255	150	87	13	2	-8	-1	71							
19 SEP	5	23	47	38	1	2	68	26							
26 SEP	121	202	166	194	78	13	48	116							
3 OCT	86	47	18	42	67	86	52	56							
10 OCT	18	17	8	-8	4	2	27	11							
17 OCT	62	12	-6	-81	-412	-128	-42	-85							
24 OCT	-95	-74	14	2	-36	-46	132	-6							
31 OCT	78	48	-1	-62	28	36	195	36							
7 NOV	61	8	47	15	-18	-24	1	13							
14 NOV	-7	-5	-78	-133	-28	14	-8	-34							
21 NOV	-122	-172	-57	2	-39	-216	-132	-105							
28 NOV	-61	-41	283	83	-77	-136	-27	4							
5 DEC	-3	93	132	28	13	-9	-36	31							
12 DEC	-8	-17	-374	-611	-238	-15	-71	-191							
19 DEC	-98	-97	-96	112	119	14	-11	-8							
26 DEC	-23	-55	-15	4	5	-37	-148	-38							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1983 AT 39N, 125W

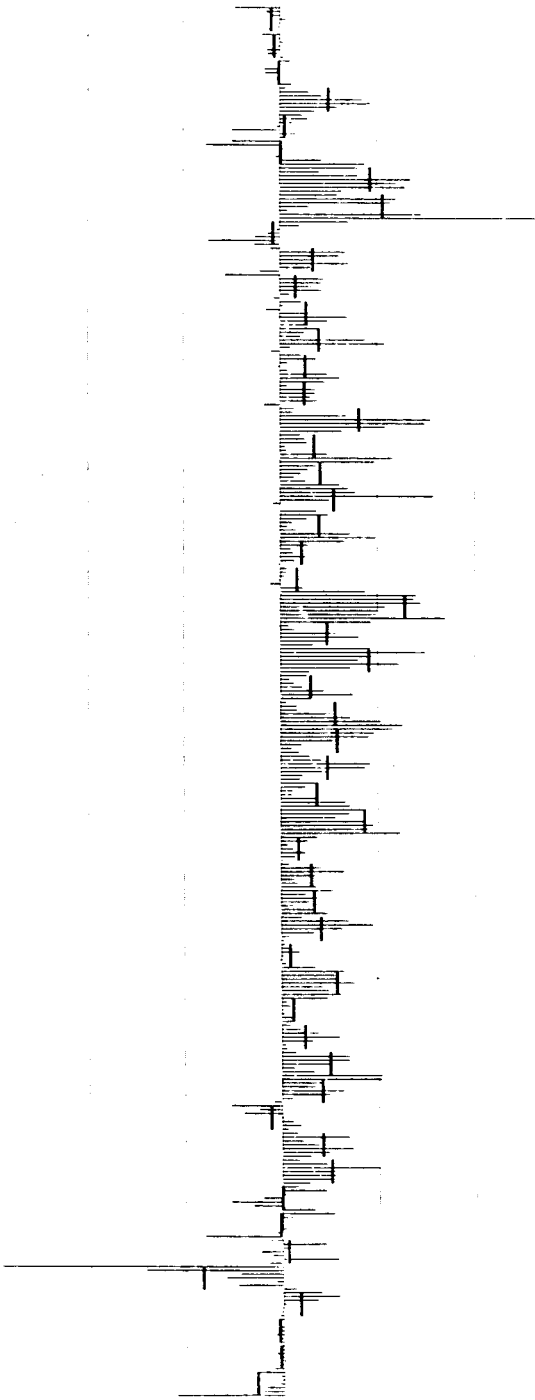
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE					
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400
2 JAN	-76	-6	-18	-17	-18	1	66	-10						
9 JAN	56	0	-14	-27	-8	-17	-49	-8						
16 JAN	-16	-288	-167	25	-62	-164	-228	-128						
23 JAN	-648	-75	-534	-443	-64	-218	-49	-290						
30 JAN	-87	-75	-68	-41	4	-36	-117	-60						
6 FEB	-49	-58	-114	-102	-232	-427	-84	-154						
13 FEB	-33	-158	-143	-168	-288	65	-48	-106						
20 FEB	-53	-111	-152	-11	-91	-99	-88	-78						
27 FEB	-141	-995	-252	-241	7	4	-32	-150						
6 MAR	-196	-103	-265	-123	4	-122	-213	-145						
13 MAR	-8	11	-86	-169	-49	28	-12	-41						
20 MAR	-41	-33	-2	-187	124	16	-116	-35						
27 MAR	5	-77	-162	-9	95	17	187	-12						
3 APR	218	267	111	68	147	134	69	145						
10 APR	63	87	286	72	1	-36	-17	54						
17 APR	-37	-18	-28	95	99	-81	-23	-8						
24 APR	-15	3	-18	-24	-41	-21	7	-16						
1 MAY	48	28	26	8	-4	-4	18	14						
8 MAY	83	153	228	181	82	217	196	152						
15 MAY	285	198	184	254	149	35	52	153						
22 MAY	32	35	44	83	52	16	28	40						
29 MAY	24	192	381	232	144	188	238	186						
5 JUN	218	117	118	91	63	62	134	115						
12 JUN	122	57	41	158	116	88	158	106						
19 JUN	238	258	126	94	148	167	167	178						
26 JUN	158	83	54	81	45	22	43	68						
3 JUL	86	248	166	77	41	152	187	138						
10 JUL	257	235	157	168	428	318	218	255						
17 JUL	95	25	12	67	184	183	111	65						
24 JUL	134	55	118	96	94	141	121	108						
31 JUL	188	181	114	118	44	63	183	115						
7 AUG	123	281	156	141	121	48	29	117						
14 AUG	97	145	186	121	26	2	24	77						
21 AUG	25	58	98	84	14	11	27	43						
28 AUG	18	-16	-15	-33	8	182	288	35						
4 SEP	281	159	68	181	165	152	156	142						
11 SEP	151	186	149	174	88	85	188	123						
18 SEP	138	81	1	-2	-1	9	98	38						
25 SEP	32	66	146	211	76	7	26	81						
2 OCT	45	49	52	41	96	12	-3	33						
9 OCT	-78	-19	41	87	93	98	76	41						
16 OCT	98	76	56	56	92	7	12	38						
23 OCT	8	12	2	4	8	-3	-72	-6						
30 OCT	-31	-55	-42	-53	-51	29	-34	-34						
6 NOV	32	37	-114	-968	-352	-84	-187	-135						
13 NOV	-83	-147	-195	-125	12	-21	-11	-81						
20 NOV	182	126	-71	-183	13	64	42	26						
27 NOV	58	33	-148	-111	26	-1	196	-1						
4 DEC	29	-39	-165	-218	-164	-36	-65	-94						
11 DEC	22	-52	-5	28	3	-38	6	-6						
18 DEC	8	71	78	17	-25	-154	-423	-62						
25 DEC	-31	-48	18	-136	-147	-4	-1	-49						

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1984 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-11	2	12	11	11	-25	-18	-3							
8 JAN	-1	-59	-8	51	95	42	-15	6							
15 JAN	10	102	13	-2	2	-32	17	16							
22 JAN	97	67	73	158	132	82	59	87							
29 JAN	90	5	15	88	24	-3	-2	24							
5 FEB	-14	-11	-93	-82	-7	-7	-168	-46							
12 FEB	-143	8	-72	-38	51	11	-9	-26							
19 FEB	-15	-21	91	86	-2	81	41	37							
26 FEB	-6	-89	-9	-24	1	79	88	6							
4 MAR	90	-15	-17	-18	-16	-24	26	-4							
11 MAR	-11	-56	-184	-42	1	-65	1	-39							
18 MAR	6	28	92	76	86	115	286	79							
25 MAR	118	194	148	224	256	84	163	167							
1 APR	152	54	26	-2	185	173	5	86							
8 APR	88	-61	91	21	95	-1	-13	11							
15 APR	53	141	6	-35	68	74	128	62							
22 APR	166	949	451	308	232	189	158	265							
29 APR	23	9	-93	8	47	100	149	43							
6 MAY	48	12	86	115	17	12	18	44							
13 MAY	143	949	186	54	21	87	75	130							
20 MAY	181	99	78	226	196	79	213	153							
27 MAY	212	88	87	482	347	253	367	252							
3 JUN	284	27	11	63	185	173	269	122							
10 JUN	247	129	283	249		984	396	245							
17 JUN	367	956	259	284	214	181	116	242							
24 JUN	189	64	52	86	98	285	371	141							
1 JUL	284	155	73	187	289	278	244	181							
8 JUL	215	247	224	926	289	234	115	236							
15 JUL	85	41	148	188	134	236	227	147							
22 JUL	61	9	7	32	151	188	184	89							
29 JUL	118	145	189	181	188	158	161	159							
5 AUG	82	143	141	153	151	118	62	122							
12 AUG	118	149	153	48	11	79	161	181							
19 AUG	222	129	88	82	88	95	96	189							
26 AUG	2	21	18	45	85	128	158	68							
2 SEP	67	38	23	38	116	215	148	92							
9 SEP	183	216	145	182	78	76	66	124							
16 SEP	84	98	61	7	128	246	248	123							
23 SEP	227	134	81	88	41	8	4	83							
30 SEP	185	146	97	-2	2	-8	-54	32							
7 OCT	-48	-15	-3	-21	-11	-39	198	-8							
14 OCT	183	122	125	32	-23	53	124	88							
21 OCT	95	52	83	183	142	186	91	92							
28 OCT	-28	16	182	35	-215	-84	5	-24							
4 NOV	3	-71	-4	-19	22	-219	-168	-63							
11 NOV	-188	-139	-8	-151	-222	-18	-78	-114							
18 NOV	48	7	86	228	37	-34	62	62							
25 NOV	11	-296	-188	41	-4	12	-22	-65							
2 DEC	-84	2	-221	-66	1	-9	-188	-69							
9 DEC	-79	6	44	212	153	44	182	69							
16 DEC	-4	-33	43	48	17	-4	13	18							
23 DEC	59	19	-53	14	52	14	-34	18							
30 DEC		46	-3	-13	-27	-33	-16	-8							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1985 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-83	-20	-17	12	-1	-4	1	-19							
13 JAN	-96	-9	6	-4	-25	-24	9	-11							
20 JAN	19	3	-29	-31	-2	-1	24	-2							
27 JAN	12	68	86	169	185	110	71	100							
3 FEB	47	55	26	-6	-89	31	10	9							
10 FEB	-89	-151	7	1	-7	87	173	2							
17 FEB	161	82	161	267	243	258	126	185							
24 FEB	119	239	228	61	17	298	528	211							
3 MAR	141	48	-5	-23	-58	-148	-52	-14							
10 MAR	-28	136	123	72	142	62	-48	68							
17 MAR	-112	89	84	65	85	28	-12	31							
24 MAR	44	7	-28	61	138	88	57	54							
31 MAR	77	58	42	174	214	23	-18	80							
7 APR	43	73	15	-4	15	97	123	52							
14 APR	91	14	72	73	62	76	-32	51							
21 APR	27	26	135	309	298	215	126	162							
28 APR	43	49	55	18	11	95	251	71							
5 MAY	185	72	57	43	28	52	122	81							
12 MAY	148	154	313	89	-13	-1	73	109							
19 MAY	88	54	24	16	31	142	197	80							
26 MAY	132	55	22	26	52	38	-5	45							
2 JUN	13	12	8	-2	-18	46	175	33							
9 JUN	283	275	289	216	281	195	339	257							
16 JUN	187	15	31	119	159	97	65	96							
23 JUN	188	298	186	159	244	141	59	181							
30 JUN	54	18	26	45	88	148	58	63							
7 JUL	11	34	34	183	142	286	251	111							
14 JUL	231	192	188	186	42	23	36	116							
21 JUL	68	83	184	173	96	44	97	97							
28 JUL	66	51	26	24	72	131	143	74							
4 AUG	172	141	113	168	198	177	246	172							
11 AUG	75	53	15	24	48	29	2	35							
18 AUG	17	83	129	78	27	39	78	61							
25 AUG	185	49	74	55	25	69	97	68							
1 SEP	42	137	188	124	66	15	3	82							
8 SEP	6	14	36	5	-4	7	68	19							
15 SEP	127	189	112	149	84	88	122	115							
22 SEP	94	11	18	3	5	18	22	25							
29 SEP	17	39	75	118	65	8	18	48							
6 OCT	28	139	137	96	26	66	286	183							
13 OCT	285	81	69	126	188	21	-16	84							
20 OCT	-184	-47	-78	2	22	39	13	-22							
27 OCT	93	139	43	76	146	88	58	85							
3 NOV	37	91	189	116	111	186	56	182							
10 NOV	93	91	6	-39	-184	-59	66	-1							
17 NOV	185	23	-5	2	8	-11	-157	-5							
24 NOV	-24	87	5	-44	-28	113	-28	13							
1 DEC	-534	-283	-86	-117	-13	-82	26	-164							
8 DEC	81	117	78	5	-3	-4	-7	37							
15 DEC	-5	8	-7	-12	-14	-9	-7	-8							
22 DEC	-4	-2	-13	-3	5	-2	-21	-6							
29 DEC	-52	-7	-3	-7	-36	-54	-221	-54							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1974 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-500	-400	-200	0	200	400	600
6 JAN	-18	-14	7	8	-48	-181	-43	-40							
13 JAN	-29	-88	-118	-95	-38	-36	28	-53							
20 JAN	91	99	27	29	8	82	132	67							
27 JAN	24	49	34	19	8	98	28	36							
3 FEB	4	78	122	47	5	-24	-3	33							
10 FEB	8	19	29	24	12	14	111	31							
17 FEB	158	21	298	18	4	85	32	76							
24 FEB	8	19	34	-28	-164	-66	34	-25							
3 MAR	128	42	58	32	71	183	21	74							
10 MAR	-18	-16	21	58	95	9	4	14							
17 MAR	29	79	53	38	25	39	59	44							
24 MAR	5	-12	-41	-27	-21	-76	86	-12							
31 MAR	43	76	155	125	-4	47	148	84							
7 APR	48	69	154	248	188	147	23	125							
14 APR	48	133	85	112	125	172	175	128							
21 APR	78	88	18	15	34	76	162	68							
28 APR	151	61	157	262	183	187	164	166							
5 MAY	173	177	128	281	254	185	173	184							
12 MAY	241	268	265	229	289	188	161	218							
19 MAY	186	188	198	281	252	155	142	168							
26 MAY	132	291	236	179	185	188	112	188							
2 JUN	181	225	248	305	338	301	72	238							
9 JUN	77	88	89	122	112	87	196	182							
16 JUN	191	76	45	74	85	188	229	128							
23 JUN	281	213	238	165	178	147	165	184							
30 JUN	273	281	172	185	125	241	223	283							
7 JUL	78	8	43	86	86	128	145	81							
14 JUL	157	176	127	86	118	87	88	128							
21 JUL	148	185	127	44	93	48	78	92							
28 JUL	87	117	148	146	114	92	68	118							
4 AUG	52	95	118	285	188	181	75	116							
11 AUG	76	183	143	126	137	111	155	122							
18 AUG	189	189	124	86	82	136	184	133							
25 AUG	63	66	145	173	126	91	63	184							
1 SEP	57	73	123	118	76	68	76	83							
8 SEP	134	136	125	86	42	27	28	83							
15 SEP	62	83	84	77	99	185	188	88							
22 SEP	88	51	59	64	62	44	12	54							
29 SEP	12	29	93	87	148	188	43	73							
6 OCT	17	18	14	48	67	66	17	35							
13 OCT	25	7	2	2	3	11	48	14							
20 OCT	188	46	14	1	1	5	18	28							
27 OCT	23	235	187	31	61	142	78	188							
3 NOV	14	14	14	-6	48	122	58	38							
10 NOV	8	-41	-28	9	61	59	93	15							
17 NOV	95	58	18	-122	-51	73	-4	-8							
24 NOV	-28	46	18	49	12	-11	-5	12							
1 DEC	-38	-148	-238	34	-2	1	11	-52							
8 DEC	-14	8	15	23	27	75	41	24							
15 DEC	46	11	57	38	17	19	82	36							
22 DEC	271	69	18	33	-14	-99	155	62							
29 DEC	38	186	48	35	16	8	55	48							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1975 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
5 JAN	15	55	54	191	178	101	95	89							
12 JAN	-2	-22	-30	-8	13	-5	-6	-8							
19 JAN	-18	1	-6	-9	8	11	34	3							
26 JAN	128	139	98	28	6	-106	-223	-10							
2 FEB	-92	-7	18	-53	-53	-39	-104	-40							
9 FEB	-23	23	-3	-39	30	224	113	46							
16 FEB	249	96	28	53	188	107	3	102							
23 FEB	6	15	42	48	16	12	-8	17							
2 MAR	22	-1	-15	-56	-228	-258	72	-65							
9 MAR	73	75	122	81	66	78	7	72							
16 MAR	45	2	12	76	182	47	112	57							
23 MAR	91	45	542	383	135	22	25	169							
30 MAR	89	319	130	44	58	18	22	98							
6 APR	78	69	18	73	128	115	152	91							
13 APR	182	75	4	34	154	57	128	91							
20 APR	88	138	73	7	88	138	238	106							
27 APR	173	164	158	252	286	131	157	176							
4 MAY	218	155	145	158	185	32	49	123							
11 MAY	184	69	86	87	153	174	131	129							
18 MAY	215	395	487	153	177	141	198	232							
25 MAY	85	115	258	142	45	68	87	115							
1 JUN	88	168	145	82	125	153	223	141							
8 JUN	162	81	71	83	188	182	125	104							
15 JUN	183	291	374	217	134	133	181	216							
22 JUN	218	184	117	88	171	203	182	167							
29 JUN	153	181	156	185	181	43	26	129							
6 JUL	85	156	169	147	182	238	319	184							
13 JUL	271	146	48	186	125	88	186	126							
20 JUL	139	144	113	118	188	166	168	134							
27 JUL	186	146	173	151	84	54	88	127							
3 AUG	188	157	163	223	132	181	155	148							
10 AUG	288	197	125	128	136	84	84	139							
17 AUG	81	48	77	77	78	72	47	68							
24 AUG	84	137	84	32	85	118	122	93							
31 AUG	189	148	81	51	28	71	123	87							
7 SEP	133	69	43	75	85	96	83	84							
14 SEP	54	53	47	82	113	188	149	87							
21 SEP	113	183	66	28	36	53	98	71							
28 SEP	147	118	71	32	25	37	33	65							
5 OCT	99	183	76	3	-88	2	18	23							
12 OCT	45	76	45	48	25	34	83	51							
19 OCT	55	68	188	288	156	34	22	105							
26 OCT	66	59	3	-14	128	86	48	51							
2 NOV	13	3	8	41	45	86	164	52							
9 NOV	83	87	44	-8	-5	-3	15	25							
16 NOV	125	223	84	-12	19	3	1	63							
23 NOV	18	21	43	83	187	288	51	100							
30 NOV	7	23	15	31	14	-18	-12	8							
7 DEC	-8	-15	-1	28	28	158	168	48							
14 DEC	24	-8	4	-5	-7	-8	-8	-8							
21 DEC	-28	48	99	24	13	23	75	28							
28 DEC	19	34	249	194	7	-4	16	73							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1976 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	15	41	77	26	8	57	28	35							
11 JAN	22	45	16	1	-12	-13	15	18							
18 JAN	25	-32	-52	-28	22	62	78	12							
25 JAN	32	14	7	2	7	1	-1	9							
1 FEB	4	7	58	86	-5	-38	-57	9							
8 FEB	-12	67	94	25	27	36	58	34							
15 FEB	68	39	71	55	133	41	-56	48							
22 FEB	-68	17	29	7	18	49	63	16							
29 FEB	96	76	29	152	92	17	94	54							
7 MAR	44	19	45	61	46	24	72	44							
14 MAR	187	36	8	45	86	187	86	81							
21 MAR	97	182	151	126	281	142	228	141							
28 MAR	228	85	91	144	113	58	98	97							
4 APR	24	1	-25	-117	12	-19	-2	-17							
11 APR	21	32	82	68	398	988	82	153							
18 APR	195	99	148	144	124	81	164	128							
25 APR	388	182	58	57	51	51	156	121							
2 MAY	225	245	151	188	141	49	66	152							
9 MAY	78	87	188	6	56	165	78	83							
16 MAY	189	224	186	185	113	189	156	169							
23 MAY	177	162	151	89	241	259	228	187							
30 MAY	111	131	153	174	175	145	186	154							
6 JUN	166	189	28	32	87	87	184	98							
13 JUN	185	53	73	148	75	53	69	94							
20 JUN	128	228	218	112	81	75	62	124							
27 JUN	93	62	159	236	166	128	111	127							
4 JUL	185	187	166	156	158	164	192	148							
11 JUL	128	132	182	82	86	84	182	188							
18 JUL	158	188	188	129	77	72	188	128							
25 JUL	195	128	82	72	75	42	38	82							
1 AUG	58	82	77	84	113	83	125	98							
8 AUG	118	88	74	182	115	128	32	94							
15 AUG	48	26	4	-18	13	22	22	15							
22 AUG	27	34	72	138	138	88	58	76							
29 AUG	52	78	64	98	122	182	82	85							
5 SEP	78	184	43	18	19	34	12	44							
12 SEP	59	81	96	88	31	55	78	78							
19 SEP	69	82	98	68	45	48	98	63							
26 SEP	2	-31	-14	8	6	7	26	-1							
3 OCT	58	25	18	9	24	38	43	29							
10 OCT	78	65	8	12	49	32	15	35							
17 OCT	18	28	31	33	31	66	44	35							
24 OCT	45	181	47	18	39	29	19	41							
31 OCT	14	6	-1	8	2	-1	8	4							
7 NOV	-6	-4	-8	2	25	26	-7	5							
14 NOV	2	17	5	18	32	4	-1	18							
21 NOV	18	7	-11	14	23	41	-13	18							
28 NOV	-11	-12	-8	-3	7	12	99	5							
5 DEC	7	-9	-2	22	45	-12	-14	5							
12 DEC	-5	6	28	-1	-18	-25	-28	-6							
19 DEC	-1	9	14	1	2	4	-14	2							
26 DEC	7	4	-4	-28	-11	8	-6	-3							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1977 AT 36N, 122W

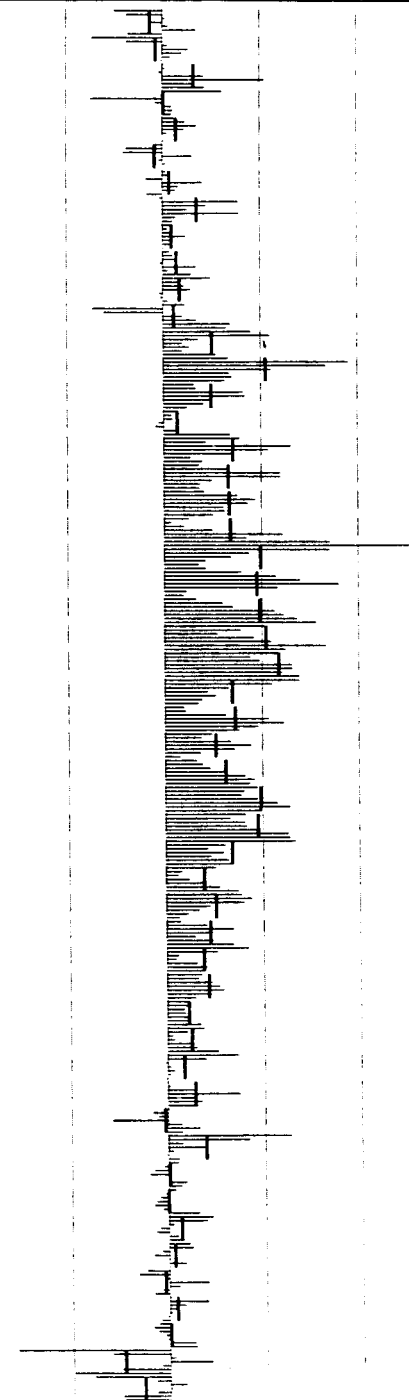
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	-40	74	41	19	6	42	34	25							
9 JAN	4	30	41	17	12	-9	-9	12							
16 JAN	-6	-27	-12	16	-22	-6	-7	-9							
23 JAN	-8	-8	-12	-9	-18	-5	-8	-6							
30 JAN	4	32	34	-9	-3	10	19	13							
6 FEB	15	-8	20	60	26	20	27	26							
13 FEB	24	19	17	23	18	6	8	16							
20 FEB	0	36	21	59	85	113	69	55							
27 FEB	49	150	202	100	106	56	18	116							
6 MAR	5	34	53	170	145	30	129	82							
13 MAR	57	27	-51	26	85	87	82	46							
20 MAR	00	45	70	60	52	146	83	82							
27 MAR	250	245	160	66	86	229	149	172							
3 APR	30	50	66	52	30	41	242	74							
10 APR	100	130	121	321	183	114	187	181							
17 APR	226	260	84	62	10	8	12	96							
24 APR	0	53	122	79	13	11	-11	39							
1 MAY	-4	33	06	160	185	32	-15	71							
8 MAY	17	50	54	22	35	84	190	59							
15 MAY	200	223	191	81	100	162	144	163							
22 MAY	130	40	51	6	67	153	160	88							
29 MAY	150	100	110	225	182	137	100	148							
5 JUN	06	103	131	163	67	49	105	102							
12 JUN	126	00	70	104	107	147	182	122							
19 JUN	204	179	00	155	120	134	100	142							
26 JUN	124	104	75	100	00	84	132	102							
3 JUL	212	107	161	151	103	167	176	178							
10 JUL	157	113	156	101	70	71	00	111							
17 JUL	111	147	190	03	117	143	155	129							
24 JUL	136	142	150	141	147	02	56	122							
31 JUL	53	00	70	04	00	100	75	84							
7 AUG	84	106	129	104	52	62	64	86							
14 AUG	70	74	51	46	70	106	133	81							
21 AUG	110	129	134	82	04	130	06	112							
28 AUG	07	132	124	01	77	07	72	99							
4 SEP	70	66	55	00	127	139	104	93							
11 SEP	00	39	36	56	60	16	-12	40							
18 SEP	-22	9	62	00	84	65	20	45							
25 SEP	30	0	3	7	106	114	36	43							
2 OCT	30	44	33	50	62	52	62	49							
9 OCT	03	65	21	10	22	44	21	41							
16 OCT	05	37	43	67	54	44	9	46							
23 OCT	22	15	60	129	21	-49	23	33							
30 OCT	60	77	36	46	50	19	104	56							
6 NOV	205	07	34	-9	-32	-2	17	44							
13 NOV	62	00	70	39	30	104	66	66							
20 NOV	-24	-103	1	7	1	13	50	-8							
27 NOV	113	47	23	50	37	20	50	52							
4 DEC	41	14	10	44	10	-2	-5	17							
11 DEC	-2	5	-7	2	48	-60	-7	-5							
18 DEC	24	-164	-605	-317	-202	-15	-29	-190							
25 DEC	-129	-112	-00	-20	10	5	-11	-47							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1978 AT 36N, 122W

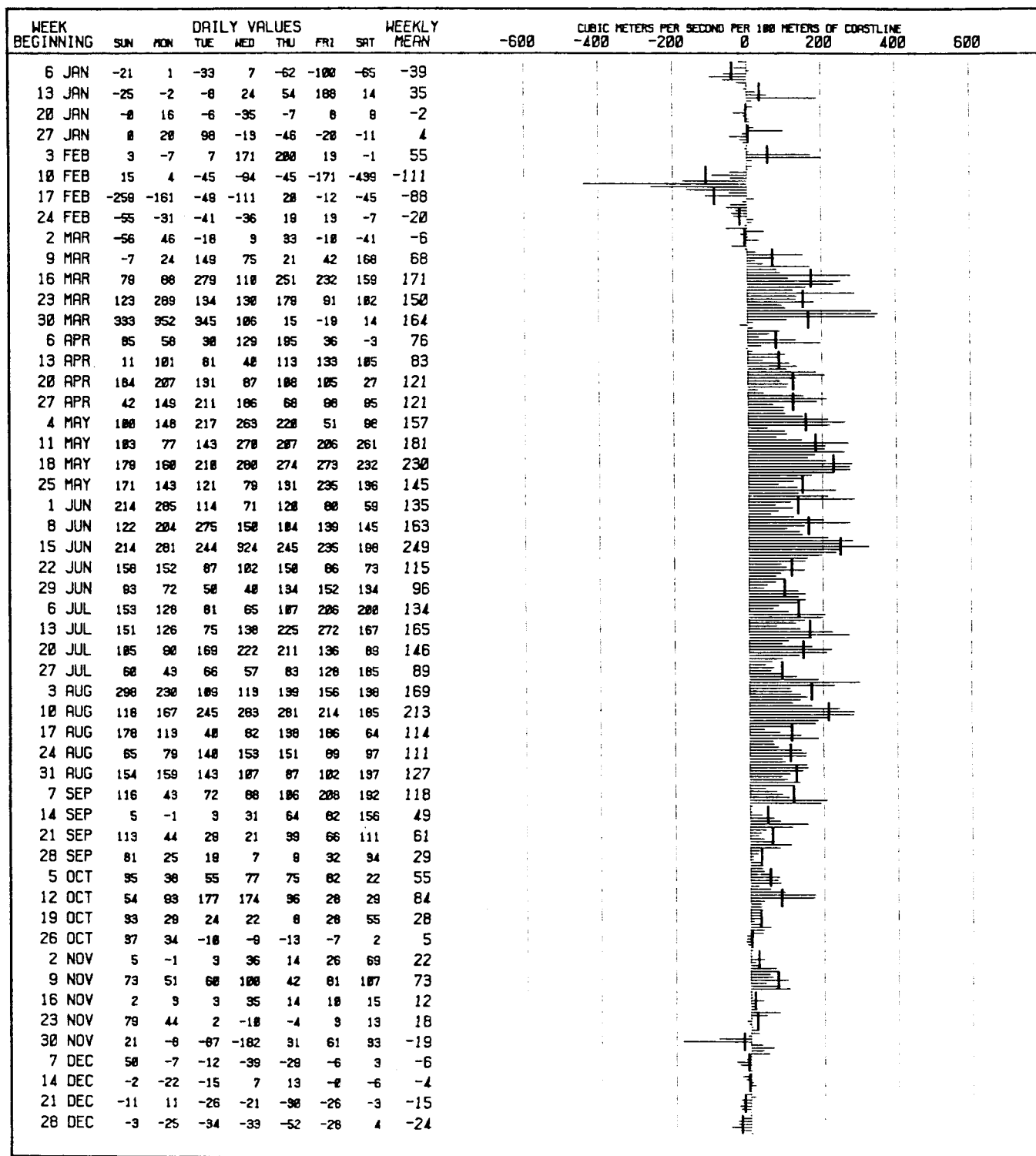
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-75	-159	-58	-224	-183	-8	-186	-105							
8 JAN	-117	-96	-2	-82	-268	-255	-262	-154							
15 JAN	-116	-188	25	-58	98	19	13	-38							
22 JAN	86	67	1	9	7	-8	8	22							
29 JAN	7	2	2	-7	-12	-48	-186	-33							
5 FEB	-167	-76	-114	-158	18	184	62	-36							
12 FEB	-128	35	48	81	28	31	12	15							
19 FEB	5	11	12	8	11	15	5	10							
26 FEB	22	-5	-26	-6	-64	-228	-185	-70							
5 MAR	12	1	-23	-7	67	121	85	37							
12 MAR	257	56	68	9	-22	-16	-6	49							
19 MAR	1	-16	-33	12	23	31	18	5							
26 MAR	55	182	48	-4	-59	-6	44	26							
2 APR	44	-26	76	24	96	81	118	50							
9 APR	96	32	68	55	58	4	-9	34							
16 APR	18	18	22	38	71	188	42	41							
23 APR	18	-28	-8	46	78	148	167	59							
30 APR	168	186	95	188	287	262	94	183							
7 MAY	92	41	113	142	112	58	43	76							
14 MAY	55	146	166	62	28	32	73	79							
21 MAY	116	169	252	87	189	84	118	134							
28 MAY	213	114	87	67	68	57	75	99							
4 JUN	128	143	128	167	187	226	283	168							
11 JUN	123	76	163	289	161	113	123	138							
18 JUN	125	158	133	139	128	142	283	146							
25 JUN	289	167	73	49	61	88	135	111							
2 JUL	149	173	183	174	166	142	182	157							
9 JUL	188	283	194	86	67	121	235	147							
16 JUL	183	118	95	118	182	76	182	115							
23 JUL	91	88	81	125	154	128	148	117							
30 JUL	174	151	126	185	84	186	78	119							
6 AUG	73	94	87	119	83	87	92	94							
13 AUG	131	83	87	182	148	72	89	181							
20 AUG	78	87	185	59	42	23	188	72							
27 AUG	125	122	132	134	61	42	71	98							
3 SEP	65	-1	17	132	84	35	-2	47							
10 SEP	73	116	72	76	85	38	88	81							
17 SEP	262	153	98	18	46	35	14	81							
24 SEP	12	16	71	88	61	28	53	47							
1 OCT	72	38	48	69	65	62	31	54							
8 OCT	41	38	29	29	8	1	41	27							
15 OCT	83	78	23	15	92	58	88	52							
22 OCT	42	8	24	23	24	28	44	28							
29 OCT	176	36	5	14	38	42	75	55							
5 NOV	42	-5	-1	38	123	67	27	41							
12 NOV	18	23	12	-8	11	38	18	13							
19 NOV	-4	-15	-18	-18	25	68	91	12							
26 NOV	28	8	28	45	46	187	83	62							
3 DEC	4	28	257	182	24	-15	-5	68							
10 DEC	1	-8	-8	-18	5	3	-8	-5							
17 DEC	-29	4	37	-16	-4	7	-3	-1							
24 DEC	-16	-22	-25	-7	-22	8	91	-9							
31 DEC	2	-84	-144	-82	-82	-184	-8	-73							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1979 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
7 JAN	-99	-74	9	-28	11	69	-78	-27							
14 JAN	-146	-79	11	52	99	16	-2	-15							
21 JAN	2	9	-8	89	208	66	87	63							
28 JAN	122	-9	-147	-19	17	28	17	2							
4 FEB	27	45	78	45	8	-8	1	28							
11 FEB	-14	-74	-88	68	-7	6	8	-15							
18 FEB	5	14	-95	82	92	25	-32	13							
25 FEB	-6	156	88	58	155	27	21	70							
4 MAR	18	9	21	46	18	12	1	18							
11 MAR	15	21	27	-5	68	18	57	28							
18 MAR	98	34	44	56	-6	-4	11	34							
25 MAR	43	-145	-123	38	68	199	198	22							
1 APR	188	217	71	38	53	37	189	181							
8 APR	192	988	334	222	193	148	126	210							
15 APR	61	65	161	166	188	82	48	98							
22 APR	24	17	18	-8	-17	25	196	28							
29 APR	156	86	259	214	141	59	78	141							
6 MAY	73	132	237	238	87	74	72	132							
13 MAY	82	149	185	179	122	125	188	134							
20 MAY	58	14	99	88	245	169	348	136							
27 MAY	586	348	174	136	84	78	83	199							
3 JUN	158	228	277	958	292	49	98	191							
10 JUN	63	117	148	227	249	271	318	196							
17 JUN	288	156	188	183	218	938	249	207							
24 JUN	295	179	195	268	262	298	276	234							
1 JUL	276	221	129	88	184	76	67	137							
8 JUL	98	49	123	219	245	189	159	143							
15 JUL	85	79	133	176	142	72	28	183							
22 JUL	63	77	82	124	164	182	179	125							
29 JUL	188	169	157	188	228	255	199	197							
5 AUG	185	132	161	166	184	251	255	189							
12 AUG	266	122	86	118	81	129	134	135							
19 AUG	181	32	24	48	88	111	147	78							
26 AUG	154	174	168	88	66	44	26	182							
2 SEP	29	82	196	94	57	97	196	98							
9 SEP	168	185	23	18	62	81	72	75							
16 SEP	78	64	92	189	115	98	58	86							
23 SEP	42	48	34	37	46	38	67	44							
30 SEP	73	48	18	15	43	68	184	49							
7 OCT	147	77	-5	6	15	9	-2	34							
14 OCT	8	9	59	149	58	78	68	57							
21 OCT	9	-98	-28	-114	27	69	27	-6							
28 OCT	251	165	91	71	18	-2	22	78							
4 NOV	19	-8	-28	-38	5	36	26	2							
11 NOV	13	-5	-16	-24	-27	-18	63	-1							
18 NOV	88	78	8	-19	-25	19	29	26							
25 NOV	41	49	-14	-29	8	34	1	12							
2 DEC	-44	-62	-8	88	21	-12	-38	-8							
9 DEC	9	79	91	15	5	-4	-16	16							
16 DEC	-22	-32	-24	-8	-4	51	54	2							
23 DEC	-314	-119	8	86	-15	-87	-189	-93							
30 DEC	-155	-28	31	9	-27	-86	-89	-52							

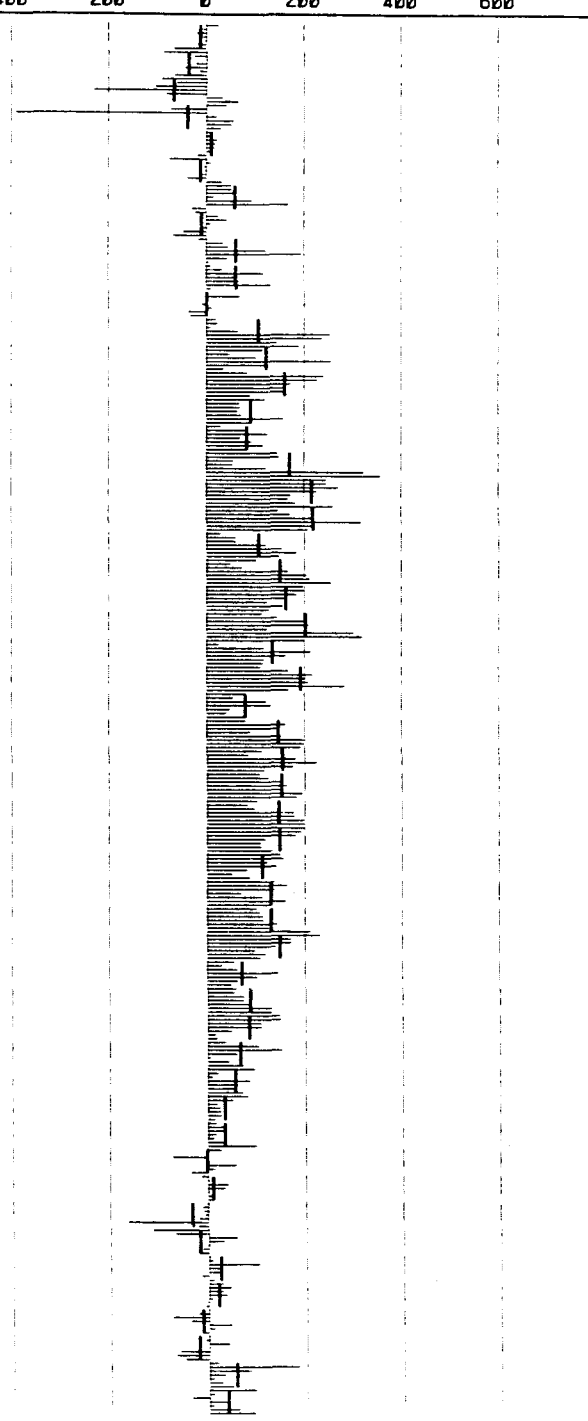


PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1980 AT 36N, 122W



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1981 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	24	-6	-18	-6	-2	-17	-65	-13							
11 JAN	-87	-24	-8	-28	-43	-14	-65	-36							
18 JAN	-88	-68	-182	-227	-78	92	63	-66							
25 JAN	48	-72	-398	28	54	58	28	-39							
1 FEB	13	12	21	17	18	7	-18	18							
8 FEB	-75	8	-4	-2	-11	-37	92	-13							
15 FEB	49	58	68	14	82	167	-28	58							
22 FEB	-23	24	41	7	-12	-47	-65	-11							
1 MAR	-16	39	45	121	183	42	4	68							
8 MAR	8	39	116	57	67	131	8	68							
15 MAR	-2	67	8	-8	18	-37	-32	-8							
22 MAR	18	22	8	64	252	236	142	186							
29 MAR	188	114	45	188	253	125	93	123							
5 APR	83	241	225	173	156	158	89	161							
12 APR	118	67	88	63	78	157	87	98							
19 APR	28	77	124	67	82	114	78	83							
26 APR	144	147	55	52	118	322	356	171							
3 MAY	246	246	278	226	171	167	182	215							
10 MAY	258	146	171	218	318	216	286	219							
17 MAY	27	58	58	118	153	182	147	186							
24 MAY	188	49	78	165	283	288	253	158							
31 MAY	187	288	183	158	122	155	126	163							
7 JUN	113	141	286	289	121	381	318	281							
14 JUN	188	24	116	211	161	115	114	134							
21 JUN	188	167	215	283	286	282	185	192							
28 JUN	88	53	128	131	47	37	78	78							
5 JUL	78	158	146	88	152	282	188	146							
12 JUL	182	112	82	181	225	174	116	155							
19 JUL	186	124	147	162	148	185	182	152							
26 JUL	188	78	86	175	178	188	288	147							
2 AUG	188	182	188	118	188	118	193	148							
9 AUG	148	154	122	148	78	51	86	111							
16 AUG	197	163	196	68	112	158	198	129							
23 AUG	88	187	113	113	143	125	289	138							
30 AUG	228	168	178	137	87	118	188	147							
6 SEP	53	91	58	142	182	68	48	71							
13 SEP	58	53	72	72	86	138	191	86							
20 SEP	147	148	188	188	48	17	18	85							
27 SEP	95	182	158	57	5	42	72	66							
4 OCT	85	28	18	83	68	56	71	56							
11 OCT	78	58	18	24	26	26	15	34							
18 OCT	15	38	37	15	12	32	88	35							
25 OCT	27	-4	-78	1	57	15	-33	-1							
1 NOV	-12	8	48	35	-8	5	5	18							
8 NOV	-3	-18	-8	-6	-18	-162	-21	-33							
15 NOV	-112	-65	55	31	-2	-13	-13	-17							
22 NOV	2	8	182	28	26	-14	18	23							
29 NOV	28	45	28	36	8	-4	-6	19							
6 DEC	-2	-21	-73	-36	44	18	-7	-12							
13 DEC	-3	-5	48	8	-57	-65	-47	-28							
20 DEC	17	182	83	31	8	27	48	57							
27 DEC	85	11	-34	31	8	61	92	38							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1982 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
3 JAN	-115	-235	45	26	-32	-61	-99	-59							
10 JAN	-17	25	22	-20	-6	-17	-11	-3							
17 JAN	26	34	-58	20	108	27	8	23							
24 JAN	-18	-30	26	17	105	89	13	31							
31 JAN	45	95	19	41	27	-46	-49	11							
7 FEB	5	29	8	-1	-14	-61	-41	-13							
14 FEB	1	-29	92	66	21	2	-4	14							
21 FEB	78	116	105	37	11	-18	-5	46							
28 FEB	-118	-49	28	72	73	19	-46	-4							
7 MAR	-115	-25	-45	-33	2	71	48	-14							
14 MAR	128	69	-21	8	46	36	43	44							
21 MAR	98	38	24	39	3	-2	8	18							
28 MAR	41	18	-69	-54	11	-37	25	-9							
4 APR	57	51	55	28	8	-47	-263	-17							
11 APR	-43	7	16	68	126	118	128	60							
18 APR	124	68	-2	-19	18	35	43	38							
25 APR	56	67	95	189	96	118	106	102							
2 MAY	183	128	79	78	91	186	308	136							
9 MAY	182	143	118	128	128	154	164	146							
16 MAY	151	239	216	92	121	242	159	173							
23 MAY	89	49	124	111	84	95	188	93							
30 MAY	63	79	195	179	198	171	156	130							
6 JUN	192	161	118	129	185	138	124	140							
13 JUN	218	159	119	178	195	67	52	140							
20 JUN	77	118	95	65	43	14	99	63							
27 JUN	89	87	47	68	72	77	82	75							
4 JUL	118	114	77	111	117	184	195	111							
11 JUL	156	129	148	142	282	181	78	147							
18 JUL	82	69	95	184	125	184	98	97							
25 JUL	121	118	121	146	159	159	169	141							
1 AUG	214	188	113	84	65	98	48	107							
8 AUG	186	184	153	185	59	78	74	108							
15 AUG	72	98	94	186	83	88	79	90							
22 AUG	68	181	189	187	78	39	34	77							
29 AUG	68	62	48	44	89	147	148	85							
5 SEP	88	144	78	68	66	171	92	101							
12 SEP	121	96	47	4	8	1	11	40							
19 SEP	48	47	32	55	14	12	78	39							
26 SEP	159	185	84	184	91	7	25	96							
3 OCT	69	138	99	65	156	78	1	75							
10 OCT	5	8	1	8	18	26	63	18							
17 OCT	66	8	8	2	-98	-8	17	9							
24 OCT	7	-15	56	36	11	-2	16	16							
31 OCT	16	28	-8	-24	6	28	64	15							
7 NOV	62	19	6	12	-3	-18	-5	11							
14 NOV	-12	-4	-1	-15	-52	24	17	-6							
21 NOV	-18	-67	-28	-5	-28	-79	-37	-34							
28 NOV	-12	-18	288	187	6	4	21	68							
5 DEC	21	36	188	14	-28	-2	-2	21							
12 DEC	24	46	-16	-54	-76	21	8	-7							
19 DEC	-26	-19	-63	13	221	187	-3	34							
26 DEC	-4	-35	-43	1	-8	-14	-35	-19							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1983 AT 36N, 122W

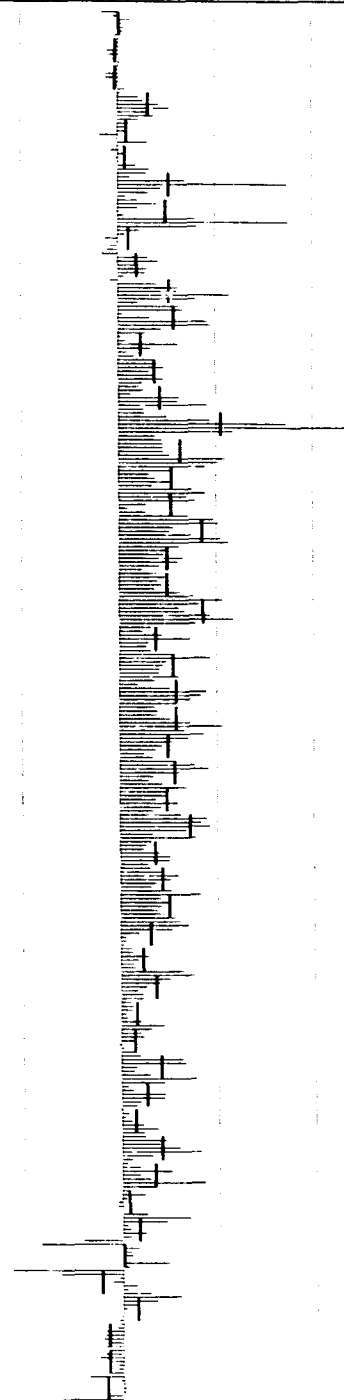
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	-13	14	-5	-21	3	26	68	10							
9 JAN	37	-51	-93	-60	-99	-43	-47	-42							
16 JAN	-8	-10	-56	66	5	-97	-127	-31							
23 JAN	-231	-29	-126	-404	20	-211	7	-139							
30 JAN	-22	-63	-78	-89	-30	-8	-40	-49							
6 FEB	-44	-21	23	-4	-2	-124	-92	-29							
13 FEB	32	-19	-19	4	-21	87	32	14							
20 FEB	5	15	8	-7	72	-78	-91	-12							
27 FEB	-69	-462	-368	-141	7	72	6	-136							
6 MAR	-6	-4	-8	-5	24	8	-33	-2							
13 MAR	35	101	13	-59	6	17	28	19							
20 MAR	-23	19	15	-39	106	98	-12	23							
27 MAR	28	16	-2	20	118	57	297	74							
3 APR	378	172	48	41	69	82	61	121							
10 APR	71	62	173	84	98	-2	-15	59							
17 APR	-53	-48	-89	59	82	-1	-10	-8							
24 APR	20	53	4	-30	-44	-21	-1	-4							
1 MAY	52	76	78	59	29	58	97	63							
8 MAY	229	255	266	87	121	159	154	183							
15 MAY	229	183	80	89	97	12	75	101							
22 MAY	71	89	122	115	83	51	85	85							
29 MAY	143	229	314	171	115	145	121	177							
5 JUN	54	19	94	118	195	160	206	112							
12 JUN	143	55	91	150	113	182	221	137							
19 JUN	162	217	148	117	156	158	185	163							
26 JUN	210	146	147	154	165	90	144	151							
3 JUL	191	117	96	141	109	174	151	131							
10 JUL	68	56	79	101	234	252	210	143							
17 JUL	72	72	82	105	106	121	116	96							
24 JUL	171	116	139	129	107	99	105	123							
31 JUL	110	134	112	117	86	96	97	100							
7 AUG	62	151	150	120	68	38	49	90							
14 AUG	24	43	84	81	26	12	30	44							
21 AUG	27	71	106	111	78	55	55	72							
28 AUG	74	24	4	7	51	97	103	52							
4 SEP	82	40	37	43	117	111	63	70							
11 SEP	91	17	53	65	59	68	61	51							
18 SEP	54	20	-3	5	24	31	32	23							
25 SEP	99	60	74	51	15	-12	3	33							
2 OCT	27	15	4	11	23	10	5	14							
9 OCT	-2	30	91	109	294	86	41	71							
16 OCT	55	79	60	71	49	41	41	57							
23 OCT	66	19	-4	-7	1	-3	-44	4							
30 OCT	-7	-8	1	18	12	58	34	15							
6 NOV	32	100	-5	-125	-262	-8	-8	-39							
13 NOV	22	6	-19	-5	99	56	21	17							
20 NOV	191	105	-8	-47	-3	136	47	61							
27 NOV	13	17	-19	-105	14	35	-98	-21							
4 DEC	73	4	-8	-23	-39	-53	-61	-15							
11 DEC	-60	18	42	54	29	-8	33	16							
18 DEC	27	71	93	17	-11	-124	-501	-61							
25 DEC	-78	3	60	-22	-30	3	91	-4							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1984 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	11	-2	-6	-16	-4	-6	1	-3							
8 JAN	11	-4	19	29	-4	24	3	11							
15 JAN	-10	68	18	1	14	-3	48	17							
22 JAN	58	57	46	104	78	-5	-14	46							
29 JAN	-5	1	18	19	-11	-7	-1	2							
5 FEB	16	15	2	8	25	55	1	16							
12 FEB	-8	49	19	8	117	74	32	42							
19 FEB	8	7	109	86	92	101	96	63							
26 FEB	3	-21	18	30	93	105	52	32							
4 MAR	24	-19	3	7	15	42	87	23							
11 MAR	41	7	-25	28	95	44	102	32							
18 MAR	69	30	72	196	83	69	188	101							
25 MAR	100	205	141	138	295	96	129	169							
1 APR	196	65	52	11	64	261	180	103							
8 APR	191	52	84	125	117	58	21	83							
15 APR	93	178	157	21	157	234	153	142							
22 APR	196	271	457	437	254	173	148	269							
29 APR	180	79	56	78	148	227	289	141							
6 MAY	162	29	91	178	168	121	96	120							
13 MAY	287	992	187	126	122	106	165	188							
20 MAY	283	186	125	221	382	227	285	211							
27 MAY	65	49	68	182	196	151	299	144							
3 JUN	262	87	91	184	151	242	263	172							
10 JUN	257	212	175	199		181	146	197							
17 JUN	179	268	245	215	176	127	118	189							
24 JUN	87	115	163	191	171	282	191	152							
1 JUL	96	59	75	84	89	136	196	99							
8 JUL	149	183	128	158	144	75	97	126							
15 JUL	91	42	86	88	68	144	174	89							
22 JUL	62	38	64	109	197	162	171	105							
29 JUL	182	112	197	184	286	182	163	157							
5 AUG	122	108	71	88	187	85	68	90							
12 AUG	81	138	114	68	48	88	112	90							
19 AUG	158	85	86	82	187	121	49	100							
26 AUG	22	39	96	89	178	173	58	87							
2 SEP	95	49	52	182	146	76	21	69							
9 SEP	48	62	69	58	46	118	118	73							
16 SEP	42	18	18	72	141	135	181	74							
23 SEP	145	72	17	17	11	16	43	46							
30 SEP	127	86	28	27	92	16	18	48							
7 OCT	18	46	55	15	28	19	198	45							
14 OCT	229	228	62	81	29	78	175	125							
21 OCT	58	24	18	54	21	184	188	54							
28 OCT	15	29	188	81	-5	8	81	44							
4 NOV	21	-18	17	-6	29	-1	-98	2							
11 NOV	-59	-158	-18	-18	-47	-1	5	-40							
18 NOV	78	18	48	62	5	-11	42	35							
25 NOV	13	-69	-174	47	38	23	18	-16							
2 DEC	-58	9	-77	-93	-35	-28	-187	-53							
9 DEC	-149	-48	55	277	355	23	98	79							
16 DEC	18	-187	-75	-25	8	-2	-18	-29							
23 DEC	11	-8	-34	-77	23	32	1	-7							
30 DEC		18	-12	-28	-39	-44	-42	-24							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1985 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-93	-7	26	18	12	8	-6	1							
13 JAN	8	-3	-1	-23	-28	-8	3	-6							
20 JAN	8	-4	-24	-25	-7	-3	15	-7							
27 JAN	5	41	52	83	187	66	74	61							
3 FEB	42	33	14	17	-95	-2	61	19							
10 FEB	3	-15	13	-4	-1	37	63	14							
17 FEB	57	24	138	348	87	61	16	105							
24 FEB	99	79	48	2	13	158	358	98							
3 MAR	163	44	15	-24	-1	-14	-22	23							
10 MAR	-32	63	82	35	57	54	12	39							
17 MAR	-17	78	122	118	291	158	41	105							
24 MAR	125	139	6	64	185	189	89	113							
31 MAR	57	9	23	122	86	18	32	46							
7 APR	77	88	92	63	72	82	47	75							
14 APR	41	58	24	125	122	188	52	85							
21 APR	52	99	186	943	476	235	75	209							
28 APR	87	89	98	81	183	217	285	126							
5 MAY	178	188	65	74	111	69	149	188							
12 MAY	178	138	156	54	15	54	141	185							
19 MAY	194	209	118	182	147	287	224	178							
26 MAY	122	188	98	129	121	89	46	99							
2 JUN	77	89	79	85	72	125	152	98							
9 JUN	212	164	123	133	187	234	157	173							
16 JUN	83	45	86	143	57	54	63	73							
23 JUN	119	187	97	88	82	79	128	118							
30 JUN	71	35	183	179	166	147	116	117							
7 JUL	71	77	76	183	143	213	134	117							
14 JUL	178	148	186	87	72	47	67	98							
21 JUL	112	151	183	122	68	68	86	112							
28 JUL	195	97	188	74	118	84	78	97							
4 AUG	126	178	166	185	136	68	155	145							
11 AUG	64	54	49	79	182	188	55	72							
18 AUG	81	87	118	182	73	63	183	87							
25 AUG	164	82	96	83	74	89	112	188							
1 SEP	122	137	186	37	18	19	5	62							
8 SEP	23	27	58	37	25	31	129	47							
15 SEP	158	188	88	51	93	44	43	72							
22 SEP	24	25	27	9	14	48	87	32							
29 SEP	61	48	46	23	-3	9	24	28							
6 OCT	98	129	132	32	27	58	153	81							
13 OCT	88	19	21	87	87	37	29	52							
20 OCT	-2	19	7	28	45	75	44	29							
27 OCT	48	89	76	117	161	62	28	82							
3 NOV	12	36	182	36	57	178	68	69							
10 NOV	16	46	8	-8	-8	-2	51	14							
17 NOV	198	98	8	16	46	17	-88	34							
24 NOV	-157	31	16	28	1	95	11	1							
1 DEC	-227	-127	-9	-21	38	9	56	-41							
8 DEC	118	71	31	8	-1	-4	-7	31							
15 DEC	-6	-12	-33	-35	-41	-33	-34	-28							
22 DEC	-31	-37	-48	-38	-18	-11	-29	-28							
29 DEC	-78	-6	8	6	2	-28	-126	-32							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1974 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-93	-134	0	0	-1	-31	-8	-29							
13 JAN	-18	-25	-18	-1	5	11	51	1							
20 JAN	73	65	-48	-15	-29	51	155	37							
27 JAN	11	17	16	33	43	120	9	36							
3 FEB	-95	25	54	5	-1	-64	-97	-8							
10 FEB	6	24	60	00	95	38	138	56							
17 FEB	211	66	247	52	0	50	-28	89							
24 FEB	-53	-9	55	22	5	32	107	23							
3 MAR	156	21	21	09	-14	122	92	61							
10 MAR	17	10	74	04	44	10	21	38							
17 MAR	50	76	67	46	63	07	113	72							
24 MAR	72	34	51	38	20	50	203	69							
31 MAR	179	106	259	156	-3	60	144	141							
7 APR	90	116	200	260	195	101	2	135							
14 APR	10	60	03	115	221	201	171	127							
21 APR	02	00	71	70	165	154	151	113							
28 APR	160	70	120	100	107	261	234	100							
5 MAY	223	157	107	177	107	106	122	168							
12 MAY	104	002	271	270	277	226	241	256							
19 MAY	222	114	194	179	260	103	115	172							
26 MAY	02	104	102	200	210	100	100	177							
2 JUN	244	200	215	140	133	164	97	164							
9 JUN	52	06	103	255	207	100	260	179							
16 JUN	252	217	190	160	141	174	107	101							
23 JUN	163	163	210	170	170	132	216	176							
30 JUN	262	234	115	00	157	222	206	102							
7 JUL	141	70	02	149	107	162	193	129							
14 JUL	04	104	194	130	00	26	97	05							
21 JUL	154	112	47	45	70	136	105	100							
28 JUL	106	120	124	111	02	00	100	120							
4 AUG	05	153	157	100	104	105	00	139							
11 AUG	00	06	130	122	134	139	175	126							
18 AUG	215	224	150	00	00	77	00	136							
25 AUG	07	144	170	164	193	111	07	131							
1 SEP	57	01	120	70	40	55	04	75							
8 SEP	164	147	100	117	07	74	71	107							
15 SEP	112	120	110	05	106	72	75	99							
22 SEP	50	76	06	00	100	104	33	79							
29 SEP	31	46	52	00	134	141	52	79							
6 OCT	22	20	44	00	110	76	14	57							
13 OCT	44	21	-2	-5	5	00	56	21							
20 OCT	07	70	17	0	6	31	01	44							
27 OCT	74	260	164	35	40	150	50	114							
3 NOV	21	24	24	-0	02	02	52	34							
10 NOV	-16	-63	-95	2	50	70	40	10							
17 NOV	02	02	13	-5	40	00	-33	41							
24 NOV	-91	21	-7	26	0	-10	-5	-1							
1 DEC	1	-19	-70	20	15	9	-0	-9							
8 DEC	-53	-24	-0	16	34	54	26	0							
15 DEC	-11	-25	7	-4	-0	-16	40	-1							
22 DEC	276	62	-16	-5	-13	-11	63	51							
29 DEC	-94	26	-07	2	-12	-16	27	-15							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1975 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE					
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400
5 JAN	2	69	87	256	288	144	-3	109						
12 JAN	-84	-74	-62	-21	7	-19	-31	-42						
19 JAN	-54	-12	-8	-36	-14	-8	7	-18						
26 JAN	78	127	95	16	9	-2	-33	31						
2 FEB	11	28	90	1	-1	9	0	10						
9 FEB	98	76	15	18	51	286	118	84						
16 FEB	237	78	98	71	189	89	-21	96						
23 FEB	-1	11	55	58	51	32	48	34						
2 MAR	82	25	18	9	-36	-45	85	20						
9 MAR	127	134	111	64	76	139	59	102						
16 MAR	133	48	46	87	163	188	232	128						
23 MAR	95	82	456	506	83	-18	11	149						
30 MAR	63	243	128	24	113	83	88	106						
6 APR	113	158	2	46	88	116	155	97						
13 APR	162	81	47	75	188	83	118	108						
20 APR	62	116	138	184	155	289	248	146						
27 APR	131	161	88	148	159	124	223	146						
4 MAY	237	147	117	115	189	75	117	148						
11 MAY	184	184	188	174	257	241	85	165						
18 MAY	123	279	365	141	199	127	186	186						
25 MAY	98	117	233	167	58	88	177	136						
1 JUN	182	227	187	127	185	185	242	169						
8 JUN	274	158	87	119	147	156	274	174						
15 JUN	412	458	533	931	188	156	156	318						
22 JUN	158	148	149	118	116	151	164	142						
29 JUN	145	187	178	233	218	154	141	188						
6 JUL	184	183	143	118	158	242	272	183						
13 JUL	271	158	188	159	196	144	221	188						
20 JUL	246	188	131	134	152	179	117	164						
27 JUL	98	99	121	124	121	118	187	112						
3 AUG	115	198	159	177	132	85	149	145						
10 AUG	198	219	284	191	148	115	145	174						
17 AUG	155	112	98	122	186	81	63	185						
24 AUG	83	133	196	89	188	111	112	118						
31 AUG	96	147	71	85	84	111	114	181						
7 SEP	87	84	96	158	175	131	186	123						
14 SEP	75	88	53	82	116	188	168	99						
21 SEP	85	35	13	-8	17	88	138	48						
28 SEP	178	155	74	52	48	46	93	83						
5 OCT	48	184	147	44	22	66	79	73						
12 OCT	84	67	32	9	9	51	98	48						
19 OCT	97	27	84	218	113	-12	26	71						
26 OCT	87	189	15	33	178	181	98	88						
2 NOV	12	4	23	63	84	83	177	65						
9 NOV	63	187	-4	-66	-15	2	44	19						
16 NOV	184	198	126	-2	93	-2	-18	63						
23 NOV	-16	-42	-8	12	284	269	75	78						
30 NOV	-17	-32	-18	21	91	9	-13	-2						
7 DEC	-12	-15	7	46	48	131	144	58						
14 DEC	-31	-59	-13	-11	-8	-6	-3	-19						
21 DEC	-1	51	58	15	12	11	72	31						
28 DEC	-62	-45	184	133	-23	-37	6	22						

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1976 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	7	38	58	-22	-2	58	28	21							
11 JAN	12	44	-8	-31	-55	-48	-2	-12							
18 JAN	28	-43	-126	-88	-7	78	86	-11							
25 JAN	36	-3	-15	-13	-3	1	-2	-8							
1 FEB	1	25	73	105	18	-38	-74	17							
8 FEB	-73	21	5	-2	23	76	88	18							
15 FEB	128	86	78	89	188	45	-35	81							
22 FEB	-41	14	55	51	72	115	148	59							
29 FEB	126	117	93	218	94	5	48	91							
7 MAR	72	32	47	64	86	13	24	48							
14 MAR	78	26	8	64	187	242	18	88							
21 MAR	11	87	191	281	247	43	165	135							
28 MAR	396	57	5	83	149	185	133	124							
4 APR	71	52	54	22	188	45	58	59							
11 APR	147	74	41	67	358	348	78	159							
18 APR	88	48	74	152	218	122	118	118							
25 APR	245	141	85	115	142	184	159	142							
2 MAY	254	282	163	158	127	44	67	157							
9 MAY	83	183	84	25	57	173	158	99							
16 MAY	144	217	241	255	153	151	168	198							
23 MAY	211	253	197	88	181	335	295	223							
30 MAY	212	165	156	188	288	184	252	194							
6 JUN	274	263	138	185	191	165	138	174							
13 JUN	158	25	43	282	158	138	163	126							
20 JUN	167	285	237	72	43	64	68	134							
27 JUN	46	96	168	236	248	242	164	178							
4 JUL	151	157	174	173	171	182	158	167							
11 JUL	158	175	135	127	146	137	188	151							
18 JUL	282	216	158	133	71	68	118	138							
25 JUL	181	77	68	85	121	85	98	91							
1 AUG	131	175	286	167	186	161	282	176							
8 AUG	168	125	111	98	171	238	284	159							
15 AUG	118	131	86	38	64	68	64	77							
22 AUG	86	57	188	161	131	73	68	97							
29 AUG	98	41	85	83	98	57	45	54							
5 SEP	53	37	18	22	-8	38	28	24							
12 SEP	188	184	181	117	84	184	84	99							
19 SEP	75	65	83	67	32	43	76	64							
26 SEP	61	29	13	8	18	54	45	32							
3 OCT	65	36	28	33	18	-4	6	25							
10 OCT	27	58	18	38	61	49	21	36							
17 OCT	98	52	28	38	28	43	48	37							
24 OCT	58	68	4	-5	6	19	17	23							
31 OCT	6	-1	-11	1	-18	-27	-5	-8							
7 NOV	-7	3	25	48	68	71	14	32							
14 NOV	45	16	-18	-43	-5	-1	8	1							
21 NOV	18	2	-14	8	21	78	-87	4							
28 NOV	-75	-67	-36	-48	-52	5	27	-35							
5 DEC	13	-27	-22	11	41	-42	-38	-8							
12 DEC	-15	5	8	-8	-28	-12	-34	-11							
19 DEC	-8	7	6	8	3	15	-34	-8							
26 DEC	-25	-1	1	16	18	9	7	4							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1977 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
2 JAN	15	94	52	36	-22	59	68	43							
9 JAN	-3	47	103	38	5	-15	-25	22							
16 JAN	6	-73	-25	39	-6	-1	8	-9							
23 JAN	-2	-22	-18	-14	-5	-6	32	-5							
30 JAN	26	41	59	14	1	9	31	26							
6 FEB	26	-9	47	84	34	8	-16	26							
13 FEB	17	13	-2	9	17	17	26	13							
20 FEB	78	184	190	65	113	89	32	107							
27 FEB	8	108	307	167	105	52	-2	106							
6 MAR	-4	38	79	272	132	17	105	90							
13 MAR	213	84	-8	44	84	84	84	86							
20 MAR	126	22	88	175	89	134	76	102							
27 MAR	244	231	125	82	183	255	136	169							
3 APR	23	41	52	42	66	124	259	87							
10 APR	206	125	73	278	208	114	186	158							
17 APR	172	228	84	53	28	23	48	90							
24 APR	74	189	235	214	133	98	64	143							
1 MAY	64	118	225	216	258	64	-3	134							
8 MAY	-18	62	116	95	24	85	114	69							
15 MAY	274	291	187	128	139	168	171	192							
22 MAY	254	174	84	74	114	225	258	169							
29 MAY	188	91	85	225	224	196	192	162							
5 JUN	74	93	158	184	139	155	228	147							
12 JUN	228	232	186	171	168	207	285	209							
19 JUN	287	248	87	99	98	119	79	143							
26 JUN	196	146	159	241	135	144	151	167							
3 JUL	187	237	178	159	198	189	288	195							
10 JUL	172	182	245	182	156	82	128	165							
17 JUL	132	158	288	152	136	144	188	147							
24 JUL	145	176	96	76	188	64	85	187							
31 JUL	87	177	81	128	144	186	174	142							
7 AUG	176	182	182	175	124	122	152	159							
14 AUG	148	29	18	25	61	98	155	75							
21 AUG	96	82	116	137	186	268	138	149							
28 AUG	53	71	189	112	83	128	123	96							
4 SEP	82	55	66	84	181	91	69	81							
11 SEP	75	82	82	152	186	98	47	102							
18 SEP	42	84	87	76	91	77	18	69							
25 SEP	44	49	66	71	164	149	39	83							
2 OCT	38	48	28	34	13	19	48	31							
9 OCT	99	63	22	28	18	31	21	39							
16 OCT	38	79	78	131	82	74	21	72							
23 OCT	54	27	38	88	68	31	133	61							
30 OCT	88	69	8	18	14	41	152	56							
6 NOV	189	62	-1	-48	-38	18	22	28							
13 NOV	78	71	28	1	17	187	117	68							
20 NOV	6	5	18	15	-17	-17	58	9							
27 NOV	188	-11	-58	2	-1	5	33	18							
4 DEC	15	-9	18	68	14	-11	-4	18							
11 DEC	14	47	8	46	116	6	27	37							
18 DEC	62	-112	-618	-182	-49	-13	-37	-135							
25 DEC	-189	-124	-56	-11	18	11	2	-38							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1978 AT 33N, 119W

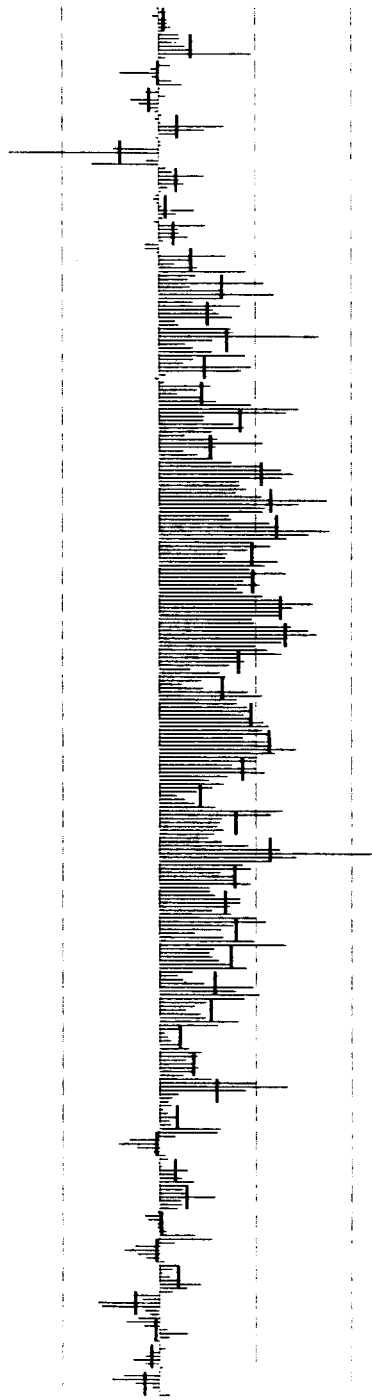
WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-1	-36	-26	-49	-17	8	-14	-19							
8 JAN	-20	-26	1	-9	-78	-112	-83	-47							
15 JAN	95	-12	80	7	184	28	2	34							
22 JAN	91	42	-24	-10	-7	-25	-6	0							
29 JAN	2	4	92	8	4	-36	-127	-16							
5 FEB	-71	34	94	8	-1	189	124	44							
12 FEB	3	66	77	103	55	25	-16	45							
19 FEB	-6	5	-2	-2	19	48	24	11							
26 FEB	90	-8	-89	-8	56	-27	-34	-12							
5 MAR	47	42	28	7	180	159	100	68							
12 MAR	229	63	24	-37	-82	-47	2	20							
19 MAR	26	2	-1	45	76	41	16	29							
26 MAR	86	139	78	27	-62	2	76	47							
2 APR	78	37	116	77	77	86	89	83							
9 APR	90	50	97	122	187	60	49	74							
16 APR	67	33	70	160	176	172	62	106							
23 APR	53	33	64	119	98	137	193	100							
30 APR	237	161	95	132	268	218	41	163							
7 MAY	24	28	118	144	189	28	46	70							
14 MAY	118	255	188	27	21	45	127	110							
21 MAY	184	195	299	197	153	159	86	183							
28 MAY	115	83	199	189	137	138	142	123							
4 JUN	177	151	84	138	153	236	301	176							
11 JUN	144	186	163	205	212	141	115	155							
18 JUN	161	175	168	159	141	146	217	167							
25 JUN	228	239	155	185	141	149	182	170							
2 JUL	219	283	198	175	168	132	98	169							
9 JUL	181	245	281	147	71	125	171	163							
16 JUL	156	115	165	188	178	86	76	135							
23 JUL	95	71	82	117	198	157	221	128							
30 JUL	188	115	181	84	97	57	68	100							
6 AUG	64	121	98	77	58	181	126	91							
13 AUG	163	189	126	181	173	82	81	119							
20 AUG	78	167	287	158	134	125	282	152							
27 AUG	288	188	78	126	81	68	84	107							
3 SEP	76	7	28	186	171	96	121	98							
10 SEP	186	159	73	77	85	54	122	188							
17 SEP	275	128	18	-15	18	9	-1	61							
24 SEP	4	22	68	48	18	25	69	36							
1 OCT	72	44	64	74	68	55	41	60							
8 OCT	42	43	42	44	98	15	93	36							
15 OCT	82	187	97	28	28	32	183	58							
22 OCT	47	8	14	12	8	15	28	16							
29 OCT	48	37	18	38	72	44	49	48							
5 NOV	18	-9	1	12	118	61	54	35							
12 NOV	29	38	21	7	11	6	5	16							
19 NOV	18	12	18	-5	-17	39	19	12							
26 NOV	23	-23	-4	18	18	226	64	44							
3 DEC	-17	-5	142	91	1	-79	-89	5							
10 DEC	-48	-52	-26	-49	-24	-17	-15	-31							
17 DEC	-25	52	46	-41	-38	-7	-14	-3							
24 DEC	-16	-8	-28	9	-17	-45	-4	-15							
31 DEC	-15	-246	-329	-66	-83	-143	-5	-127							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1979 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
7 JAN	-13	-16	44	-8	38	120	-99	17							
14 JAN	-22	-20	-52	39	43	18	-93	-7							
21 JAN	5	14	-24	-5	280	49	28	37							
28 JAN	123	9	-167	-42	17	-4	-97	-15							
4 FEB	-8	17	15	20	-3	-5	8	6							
11 FEB	-5	-11	14	100	77	68	25	38							
18 FEB	57	90	98	162	86	58	-21	66							
25 FEB	91	229	101	99	184	117	96	112							
4 MAR	26	-10	-18	18	92	25	3	10							
11 MAR	24	39	97	14	95	66	64	49							
18 MAR	81	26	28	72	5	29	51	41							
25 MAR	105	37	12	104	81	144	81	81							
1 APR	97	190	95	22	78	149	141	100							
8 APR	152	497	368	255	88	87	106	222							
15 APR	184	165	200	209	87	84	195	141							
22 APR	209	191	111	49	85	154	268	144							
29 APR	258	248	267	267	177	118	229	222							
6 MAY	227	255	279	218	45	51	44	159							
13 MAY	42	118	178	145	87	67	147	111							
20 MAY	98	78	114	118	238	187	209	138							
27 MAY	317	919	158	191	115	105	187	177							
3 JUN	164	298	266	222	187	27	14	160							
10 JUN	16	61	82	171	218	302	497	184							
17 JUN	308	174	85	157	285	289	248	209							
24 JUN	259	208	175	176	222	229	308	236							
1 JUL	375	268	288	284	184	176	168	229							
8 JUL	121	178	244	335	175	61	82	170							
15 JUL	106	100	116	126	68	39	68	87							
22 JUL	89	159	192	285	199	221	185	177							
29 JUL	166	66	89	217	275	298	183	186							
5 AUG	63	88	124	152	193	167	154	125							
12 AUG	178	189	185	149	98	106	118	143							
19 AUG	186	132	114	118	108	134	182	132							
26 AUG	118	127	155	198	188	198	118	136							
2 SEP	181	148	166	114	68	82	95	111							
9 SEP	58	48	26	58	58	56	6	42							
16 SEP	3	24	62	58	96	96	67	58							
23 SEP	56	91	115	78	84	66	84	82							
30 SEP	88	41	27	58	89	84	106	70							
7 OCT	213	188	26	45	106	86	51	102							
14 OCT	44	58	86	142	114	195	146	102							
21 OCT	94	1	4	11	55	155	83	49							
28 OCT	274	145	18	89	19	15	74	89							
4 NOV	67	4	1	8	21	34	48	25							
11 NOV	18	-21	-17	-5	-18	9	188	11							
18 NOV	111	83	8	-18	-12	48	62	39							
25 NOV	81	113	-5	-34	-38	-39	-32	9							
2 DEC	-41	-57	-29	19	-19	-18	-18	-22							
9 DEC	14	51	12	-7	-17	-42	-32	-3							
16 DEC	-21	-29	-1	4	97	85	89	25							
23 DEC	-26	-75	29	99	-1	-29	-32	-5							
30 DEC	-39	-8	12	-21	-33	-37	-52	-25							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1980 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-5	16	-12	10	18	26	12	11							
13 JAN	42	45	98	54	78	182	15	65							
20 JAN	-3	25	-15	-88	-13	27	47	-2							
27 JAN	3	-26	13	-58	-99	-21	-8	-19							
3 FEB	7	-7	4	134	84	37	-7	37							
10 FEB	5	4	-82	-911	-1	-26	-137	-88							
17 FEB	14	28	83	44	51	17	5	36							
24 FEB	-7	-18	-4	6	72	36	8	15							
2 MAR	-9	86	48	41	61	8	-28	38							
9 MAR	-28	-5	137	78	93	78	188	66							
16 MAR	76	60	218	64	126	238	132	131							
23 MAR	78	169	113	124	152	34	48	188							
30 MAR	158	153	332	189	54	78	111	148							
6 APR	177	78	48	188	189	14	-7	95							
13 APR	18	186	77	37	84	119	189	89							
20 APR	281	264	83	91	155	175	189	168							
27 APR	52	118	215	116	51	79	118	186							
4 MAY	148	215	255	278	256	166	166	212							
11 MAY	188	158	212	948	289	219	214	231							
18 MAY	144	148	231	258	354	911	265	243							
25 MAY	185	238	182	148	196	246	218	193							
1 JUN	185	263	191	174	288	159	173	193							
8 JUN	214	256	317	277	254	248	183	251							
15 JUN	186	274	389	328	268	254	288	261							
22 JUN	225	253	188	176	145	64	123	165							
29 JUN	197	87	46	88	182	213	158	131							
6 JUL	168	181	185	175	188	215	225	198							
13 JUL	211	227	173	222	234	284	238	227							
20 JUL	282	189	151	199	219	141	181	173							
27 JUL	133	187	76	35	52	72	115	84							
3 AUG	255	232	128	124	118	132	111	157							
10 AUG	181	128	183	258	442	284	238	231							
17 AUG	172	189	126	158	152	188	183	155							
24 AUG	184	114	166	186	146	188	147	136							
31 AUG	288	221	153	126	73	132	196	157							
7 SEP	263	113	182	188	121	148	178	148							
14 SEP	67	36	47	93	184	158	286	114							
21 SEP	176	95	73	54	84	85	162	185							
28 SEP	121	37	18	15	23	35	58	43							
5 OCT	87	78	55	67	88	73	47	78							
12 OCT	186	189	267	178	98	25	17	119							
19 OCT	23	6	16	34	21	25	126	36							
26 OCT	118	33	-63	-85	-47	-13	11	-6							
2 NOV	16	-2	4	57	91	46	72	32							
9 NOV	56	48	53	114	44	46	97	57							
16 NOV	-4	-29	-24	-3	-3	14	72	3							
23 NOV	188	38	-49	-72	-46	-28	18	-6							
30 NOV	95	27	3	28	41	84	56	38							
7 DEC	27	-47	-37	-125	-118	-31	-18	-58							
14 DEC	-44	-69	-31	15	57	28	-8	-9							
21 DEC	-1	13	-21	-28	-53	-31	5	-17							
28 DEC	1	-71	-85	-51	-14	2	23	-29							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1981 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
4 JAN	0	-37	-44	18	17	-37	-93	-25							
11 JAN	-151	-69	-12	-6	1	4	-4	-34							
18 JAN	-7	3	1	-23	-22	45	69	9							
25 JAN	17	5	-4	57	78	82	47	39							
1 FEB	-8	-18	5	12	8	4	-17	-1							
8 FEB	-72	62	91	15	-1	-24	91	6							
15 FEB	45	29	49	-9	57	39	-176	6							
22 FEB	-54	41	86	44	13	-4	-30	15							
1 MAR	-28	12	91	24	117	32	11	37							
8 MAR	18	35	52	36	126	157	36	65							
15 MAR	28	83	47	34	54	37	29	45							
22 MAR	72	141	89	156	318	168	148	155							
29 MAR	189	168	55	184	225	118	-1	123							
5 APR	16	179	265	164	134	186	146	157							
12 APR	158	117	157	162	116	215	189	159							
19 APR	98	185	88	73	78	124	155	96							
26 APR	287	163	36	22	55	155	326	138							
3 MAY	323	289	291	224	199	189	61	285							
10 MAY	197	134	199	182	326	976	296	227							
17 MAY	81	131	127	146	133	159	198	131							
24 MAY	114	84	122	169	178	239	225	168							
31 MAY	281	288	239	158	58	85	123	155							
7 JUN	286	284	249	983	285	912	295	252							
14 JUN	86	-46	98	81	73	46	187	51							
21 JUN	116	149	163	181	198	176	147	161							
28 JUN	124	168	215	174	58	51	87	126							
5 JUL	188	154	188	78	118	157	96	116							
12 JUL	148	181	78	148	249	287	134	151							
19 JUL	96	185	167	224	241	285	175	173							
26 JUL	148	146	155	215	173	288	182	177							
2 AUG	288	278	181	185	181	139	146	165							
9 AUG	162	189	137	155	71	47	83	122							
16 AUG	176	216	182	122	158	189	161	172							
23 AUG	157	141	78	52	195	128	164	128							
30 AUG	218	138	112	132	198	116	118	137							
6 SEP	82	26	75	146	128	181	88	91							
13 SEP	174	159	153	112	83	79	55	117							
20 SEP	83	89	41	184	158	129	85	99							
27 SEP	188	159	161	41	19	87	68	92							
4 OCT	117	42	36	121	143	187	115	97							
11 OCT	186	78	48	48	58	27	18	58							
18 OCT	4	6	21	39	22	34	111	34							
25 OCT	59	52	21	65	184	-39	-195	18							
1 NOV	-54	-12	32	48	17	58	24	14							
8 NOV	-5	2	23	21	19	14	15	13							
15 NOV	17	19	189	12	-18	-8	15	23							
22 NOV	99	29	121	85	36	11	8	46							
29 NOV	45	28	-14	-8	-48	-16	1	-2							
6 DEC	18	-17	-32	8	52	41	43	15							
13 DEC	32	-9	36	5	-28	-3	16	8							
20 DEC	57	219	61	28	-28	11	46	55							
27 DEC	134	55	41	76	59	135	157	94							



PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1982 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
3 JAN	-8	-7	86	37	-137	-212	-114	-50							
10 JAN	-67	22	28	-22	1	-16	-15	-10							
17 JAN	97	64	58	144	186	39	-41	68							
24 JAN	-21	8	85	75	158	115	23	62							
31 JAN	48	-8	-1	31	28	-52	-57	-4							
7 FEB	22	43	7	8	11	-5	28	17							
14 FEB	114	65	134	155	99	9	-8	74							
21 FEB	93	65	96	12	95	45	28	36							
28 FEB	-2	38	85	142	91	14	-28	48							
7 MAR	-17	12	3	4	11	56	72	20							
14 MAR	88	134	34	24	87	62	83	73							
21 MAR	27	38	43	68	11	6	58	34							
28 MAR	147	86	41	48	63	32	97	73							
4 APR	196	152	128	73	12	9	1	72							
11 APR	94	118	126	192	187	136	138	132							
18 APR	82	58	-18	-21	15	58	186	41							
25 APR	198	167	155	189	183	127	124	144							
2 MAY	81	71	64	186	188	222	358	146							
9 MAY	259	178	152	176	146	199	157	179							
16 MAY	88	188	238	85	128	222	172	162							
23 MAY	77	115	126	111	74	139	285	120							
30 MAY	191	174	245	277	182	234	281	212							
6 JUN	218	235	165	287	232	232	227	215							
13 JUN	384	247	155	182	283	188	123	218							
20 JUN	173	183	188	163	168	171	183	176							
27 JUN	218	288	163	128	126	139	123	157							
4 JUL	215	146	86	119	195	184	138	133							
11 JUL	128	131	195	176	218	186	148	159							
18 JUL	153	144	123	126	85	121	162	132							
25 JUL	128	188	185	157	128	137	133	127							
1 AUG	281	242	181	126	181	51	181	143							
8 AUG	155	182	178	139	114	185	141	152							
15 AUG	128	185	73	114	154	134	182	116							
22 AUG	198	118	181	82	62	38	78	88							
29 AUG	147	163	112	85	73	131	94	115							
5 SEP	78	146	51	32	71	221	89	188							
12 SEP	88	134	85	56	15	2	49	63							
19 SEP	188	82	88	57	18	1	53	55							
26 SEP	288	217	82	178	48	21	21	121							
3 OCT	82	158	57	82	178	8	-23	74							
10 OCT	-4	8	5	14	28	35	85	24							
17 OCT	115	69	57	38	14	18	38	49							
24 OCT	82	21	88	33	4	21	28	37							
31 OCT	25	22	-44	-55	-7	4	21	-5							
7 NOV	44	81	18	48	-2	-11	-2	25							
14 NOV	-1	4	3	19	55	59	41	26							
21 NOV	11	6	4	-7	-19	-13	3	-2							
28 NOV	91	69	387	272	58	7	21	128							
5 DEC	7	9	41	-175	-86	1	3	-38							
12 DEC	28	85	1	1	2	44	5	24							
19 DEC	-3	33	7	62	264	112	-9	67							
26 DEC	-1	-4	-48	-9	-5	-5	-13	-12							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1983 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	-600	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE					600
	SUN	MON	TUE	WED	THU	FRI	SAT			-400	-200	0	200	400	
2 JAN	1	-2	-12	-20	10	10	-6	-3							
9 JAN	-74	-82	-91	-59	-96	-21	-17	-56							
16 JAN	45	31	28	141	89	-16	-26	42							
23 JAN	-14	14	2	-26	109	-131	48	-1							
30 JAN	8	-16	-43	-90	-18	-4	0	-25							
6 FEB	21	67	118	24	28	0	16	40							
13 FEB	120	15	14	55	21	167	61	65							
20 FEB	8	30	21	36	109	47	94	41							
27 FEB	96	-69	-158	-55	54	174	80	9							
6 MAR	77	69	59	41	00	87	72	69							
13 MAR	115	235	55	19	81	68	55	89							
20 MAR	14	105	88	68	158	185	45	93							
27 MAR	62	85	56	69	156	34	262	103							
3 APR	429	164	18	42	78	98	68	128							
10 APR	86	82	193	100	58	23	3	78							
17 APR	-16	23	-8	71	132	68	75	49							
24 APR	191	148	80	22	27	54	67	77							
1 MAY	111	109	118	231	194	184	141	136							
8 MAY	282	909	354	129	167	217	168	232							
15 MAY	228	173	42	68	83	55	199	111							
22 MAY	154	188	224	175	158	127	188	172							
29 MAY	295	984	441	271	283	219	284	279							
5 JUN	141	90	172	207	184	188	317	187							
12 JUN	214	69	187	172	195	186	247	161							
19 JUN	176	235	157	135	188	247	221	194							
26 JUN	246	238	212	219	222	184	269	227							
3 JUL	153	107	114	206	168	188	128	151							
10 JUL	48	42	184	189	228	281	272	152							
17 JUL	184	189	181	188	117	162	169	158							
24 JUL	236	188	194	156	115	142	132	166							
31 JUL	143	188	148	149	121	78	48	110							
7 AUG	52	81	69	105	67	54	95	74							
14 AUG	78	28	26	24	92	58	108	48							
21 AUG	89	155	142	134	182	87	78	113							
28 AUG	89	75	67	94	88	189	168	99							
4 SEP	129	78	74	76	181	97	55	87							
11 SEP	28	26	68	184	85	91	81	69							
18 SEP	42	4	-5	34	87	181	66	47							
25 SEP	88	111	127	98	25	9	7	63							
2 OCT	92	15	1	19	5	38	48	21							
9 OCT	62	69	11	42	291	148	63	88							
16 OCT	84	64	78	68	99	31	92	56							
23 OCT	96	44	-8	-12	3	6	5	19							
30 OCT	29	22	25	61	43	71	78	46							
6 NOV	54	79	25	-4	-8	27	62	34							
13 NOV	183	49	19	48	188	145	55	72							
20 NOV	249	127	24	18	44	193	99	97							
27 NOV	9	15	5	-68	-1	78	184	28							
4 DEC	87	11	-5	-1	-1	55	4	23							
11 DEC	46	88	68	55	42	8	84	55							
18 DEC	47	112	168	74	28	-7	-184	44							
25 DEC	-13	88	211	6	-13	1	24	43							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1984 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
1 JAN	-14	-49	-28	-27	-5	2	43	-11							
8 JAN	44	19	28	28	-27	31	43	21							
15 JAN	8	52	11	2	18	-2	39	18							
22 JAN	48	38	8	32	-1	-51	-37	4							
29 JAN	-4	1	28	39	-2	1	23	11							
5 FEB	47	31	18	14	48	108	29	42							
12 FEB	18	69	84	22	183	116	92	76							
19 FEB	25	6	88	51	34	142	138	67							
26 FEB	-14	-18	46	82	83	96	57	50							
4 MAR	28	-26	13	29	68	123	116	49							
11 MAR	198	84	77	88	122	108	169	111							
18 MAR	28	5	53	187	67	24	126	70							
25 MAR	152	934	72	35	232	189	281	161							
1 APR	178	89	66	66	5	174	137	101							
8 APR	161	142	166	175	118	54	68	125							
15 APR	117	177	236	171	238	243	188	183							
22 APR	82	132	395	413	254	162	197	225							
29 APR	153	184	287	223	186	297	296	221							
6 MAY	158	6	47	162	233	153	115	125							
13 MAY	187	987	381	126	198	129	195	202							
20 MAY	282	181	82	167	284	165	156	178							
27 MAY	84	82	131	186	182	158	299	159							
3 JUN	294	199	198	231	218	285	288	233							
10 JUN	232	213	266	259		283	158	234							
17 JUN	162	252	269	243	282	154	162	206							
24 JUN	81	184	288	169	187	174	185	157							
1 JUL	182	95	187	242	225	161	78	157							
8 JUL	68	188	82	119	157	81	31	93							
15 JUL	93	93	128	78	122	168	136	107							
22 JUL	79	95	173	178	88	78	83	111							
29 JUL	113	158	172	214	187	181	189	175							
5 AUG	173	127	186	135	88	55	99	183							
12 AUG	76	98	65	43	43	71	62	66							
19 AUG	81	77	85	96	135	143	76	99							
26 AUG	53	53	88	138	188	288	99	186							
2 SEP	26	61	41	47	78	26	-3	39							
9 SEP	-15	28	26	22	54	142	88	58							
16 SEP	26	31	32	148	244	284	91	111							
23 SEP	128	76	6	21	28	27	68	58							
30 SEP	168	123	64	81	88	77	95	93							
7 OCT	47	113	96	73	88	71	188	84							
14 OCT	184	191	54	148	51	118	181	134							
21 OCT	65	14	11	24	-1	116	145	53							
28 OCT	77	49	127	188	13	83	188	81							
4 NOV	8	1	81	81	86	44	24	48							
11 NOV	11	8	44	15	18	46	77	31							
18 NOV	116	24	38	65	-2	17	76	47							
25 NOV	82	-3	-9	79	43	36	24	37							
2 DEC	3	28	8	-84	-69	-42	-27	-28							
9 DEC	-41	-38	32	247	324	11	38	81							
16 DEC	48	-13	-56	-16	34	-5	-61	-11							
23 DEC	4	-18	-2	-63	-18	66	6	-3							
30 DEC		-5	-14	-47	-86	-75	-41	-45							

PACIFIC FISHERIES ENVIRONMENTAL GROUP - MONTEREY, CALIFORNIA
 COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS
 DURING 1985 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES							WEEKLY MEAN	CUBIC METERS PER SECOND PER 100 METERS OF COASTLINE						
	SUN	MON	TUE	WED	THU	FRI	SAT		-600	-400	-200	0	200	400	600
6 JAN	-6	14	89	24	3	-8	-18	15							
13 JAN	24	-8	8	-8	1	38	19	18							
20 JAN	16	8	-3	-14	-4	-1	78	18							
27 JAN	42	72	67	78	92	95	57	54							
3 FEB	46	25	11	22	12	58	117	41							
10 FEB	4	-31	5	-29	-23	4	35	-5							
17 FEB	96	6	128	258	72	24	18	76							
24 FEB	23	32	18	9	27	168	328	85							
3 MAR	132	41	72	42	24	8	28	49							
10 MAR	19	74	184	58	181	91	58	71							
17 MAR	59	149	158	188	211	116	99	119							
24 MAR	149	242	124	151	253	186	49	185							
31 MAR	25	-9	32	145	86	62	184	64							
7 APR	188	116	178	172	147	78	99	118							
14 APR	61	92	69	163	197	282	289	142							
21 APR	125	138	77	188	358	144	57	153							
28 APR	96	111	148	177	188	275	288	171							
5 MAY	199	179	139	138	228	145	189	173							
12 MAY	185	111	127	97	87	174	265	149							
19 MAY	246	243	189	94	195	237	319	198							
26 MAY	227	189	197	146	167	169	188	183							
2 JUN	193	179	157	126	91	158	163	152							
9 JUN	286	158	183	169	299	289	139	174							
16 JUN	114	178	231	217	154	98	117	159							
23 JUN	248	249	142	68	86	116	118	147							
30 JUN	82	79	139	168	118	158	138	121							
7 JUL	119	186	63	88	171	236	195	148							
14 JUL	136	121	188	88	78	76	139	185							
21 JUL	212	227	219	136	78	185	149	161							
28 JUL	174	289	187	168	145	187	183	157							
4 AUG	131	175	178	161	162	127	184	161							
11 AUG	158	154	152	178	159	187	149	163							
18 AUG	157	139	128	93	128	122	122	126							
25 AUG	88	48	66	85	65	74	84	73							
1 SEP	129	219	166	71	26	24	28	95							
8 SEP	81	92	188	76	27	35	138	79							
15 SEP	172	168	132	49	29	39	45	91							
22 SEP	39	33	7	33	85	57	119	53							
29 SEP	94	95	64	18	-11	8	49	45							
6 OCT	121	117	158	18	21	48	91	79							
13 OCT	45	-6	14	58	64	42	45	37							
20 OCT	45	63	64	26	92	63	21	45							
27 OCT	48	98	78	138	178	21	8	77							
3 NOV	5	34	62	18	98	168	118	68							
10 NOV	64	63	25	-5	-13	-2	62	28							
17 NOV	174	111	-18	23	97	22	-2	58							
24 NOV	-58	-9	25	78	74	186	92	47							
1 DEC	-16	-25	-2	-4	29	32	65	12							
8 DEC	168	78	15	16	5	-12	-18	35							
15 DEC	-9	-25	-71	-72	-58	-42	-38	-44							
22 DEC	-38	-26	-37	-33	-8	-2	-8	-21							
29 DEC	-26	11	28	39	93	5	-21	9							

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