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NOAA-TM-NMFS-SWFSC-231

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

NOAA Technical Memorandum NMFS

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Abstract

Long time series of ocean surface currents are not available, however reasonable estimates of surface transport and coastal upwelling may be made using planetary boundary layer theory and the geostrophic wind approximation. PFEG generates daily and monthly indices of coastal upwelling at 15 standard geographic points along the west coast of North America. The first set, beginning in 1967, is comprised of daily means of six-hourly upwelling indices, estimated from six-hourly synoptic pressure fields. The second set of indices are derived from monthly-mean pressure fields, and extend back over 50 years to 1946.

The annual cycle is estimated at each point by a least-squares regression of the 1967-91 daily data to an annual and semiannual harmonic signal. The means and standard deviations of monthly values are calculated for the same 25-year period to compare their annual climatologies to those from the daily indices. Upwelling north of 30°N has a strong annual signal. Greatest upwelling rates occur at 33°N, with a linear decrease in the maximum upwelling indices north to about 54°N. The greatest annual range occurs at 39°N. The date of maximum upwelling increases linearly from late April at 21°N to mid-July at 48°N. Minima occur within 15 days of 1 January at all latitudes, with negative (downwelling-favorable) indices occurring north of 36°N during at least part of the year. Downwelling is a year-around feature along the British Columbia coast. The annual range off Baja California is relatively small. This region is also characterized by secondary minima and maxima in August and October, respectively. Highest interannual variance at a location occurs during months of greatest absolute index values. Variance south (north) of 45°N is greatest in summer (winter).

Indices derived from monthly pressure fields are consistently greater than monthly averages of the daily indices. This discrepancy is greatest during winter downwelling at northern points, and summer upwelling at southern points. Daily standard errors are consistently greater than the associated monthly deviations, due to the high variability on a given Julian day associated with synoptic atmospheric motions. Monthly standard deviations off central and southern California peak in spring and remain relatively high through the summer, while daily standard errors decline rapidly between late winter and summer.

One of the most striking highlights is the relatively short duration of significant positive and negative anomalies (< 1 year), despite the large latitudinal extent of most anomalies. The indices also feature sudden shifts in their temporal patterns. These may be attributed to changes in the source of the monthly pressure fields, or in the methodology used to interpolate the gridded pressure fields used to calculate these indices, rather than true environmental changes.

Introduction

The frictional stress of equatorward wind on the ocean's surface, in concert with the earth's rotation, causes water in the surface layer to move away from the western coast of continental land masses (Sverdrup *et al.* 1942, p. 501). The offshore moving surface water, referred to as Ekman transport after the scientist who first described this process, is replaced by water which upwells along the coast from depths of 50-100 m and more. Upwelled water is cooler and more saline than the original surface water (Robinson 1976; Huyer 1983; Kosro *et al.* 1991) and typically has much greater concentrations of nutrients such as nitrate, phosphate and silicate that are key to sustaining biological production (Smith 1968; Traganza *et al.* 1981; Kosro *et al.* 1991). This is why marine ecosystems in eastern boundary currents are highly productive, and capable of maintaining large standing crops of plankton, massive fish stocks such as sardines and anchovies, and major populations of marine mammals and sea birds (Cushing 1969; Ryther 1969; Walsh *et al.* 1977; Wroblewski 1977). The major eastern boundary currents include the Canary off the Iberian peninsula and northwestern Africa, the Benguela off southwestern Africa, the Peru (or Humboldt) off western South America, the Leeuwin off western Australia, and the California Current System off western North America. Moreover variations in upwelling over seasonal to interannual and longer periods, due to large-scale shifts in wind patterns and atmospheric systems, are linked to variability in fish populations and other biological components in coastal ocean ecosystems (Parrish *et al.* 1981; Cury *et al.* 1995; Parrish and Mallicoate 1995).

Each month, the Pacific Fisheries Environmental Group (PFEG) generates indices of the intensity of large-scale, wind-induced coastal upwelling at 15 standard locations along the west coast of North America (Figure 1). The indices are based on estimates of offshore Ekman transport driven by geostrophic wind stress. Geostrophic winds are derived from six-hourly synoptic and monthly mean surface atmospheric pressure fields. The pressure fields are interpolated from surface observations and provided by the U.S. Navy Fleet Numerical Meteorology and Oceanography Center (FNMOC), Monterey, CA.

Directly quantifying upwelling is extremely difficult, and observed time series of the phenomenon do not exist. The idea behind the upwelling index was to develop some simple time series that represent variations in upwelling along the coast. Wooster and Reid (1963) demonstrated that the offshore component of surface Ekman transport represents an "index of upwelling" that describes seasonal variability in near-coastal cooling presumably associated with upwelling. Although long-term time series of ocean surface currents are not available, reasonable estimates of surface transport may be made using the geostrophic wind approximation and planetary boundary layer theory. PFEG regularly produces and provides daily and monthly index time series to scientists

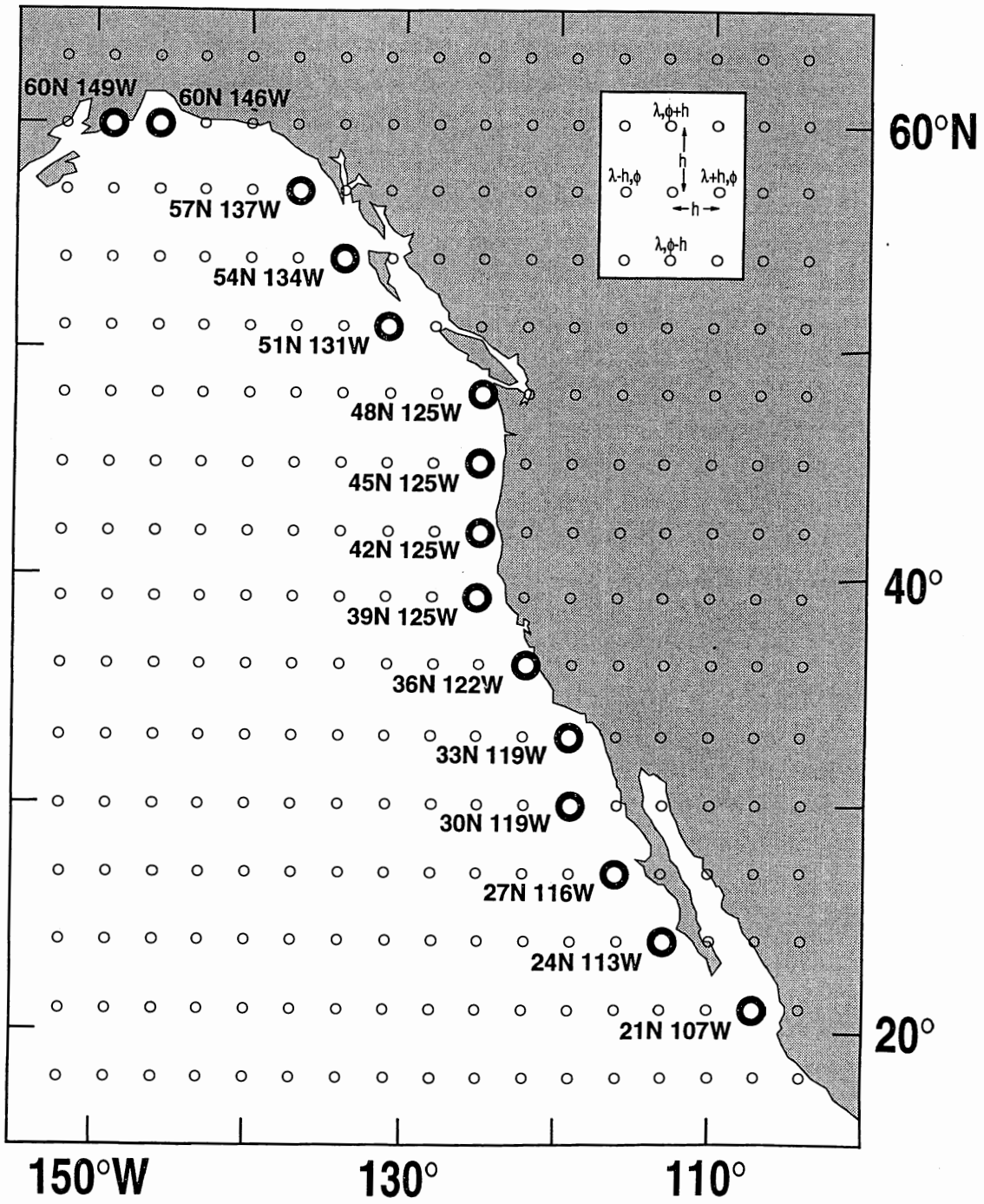
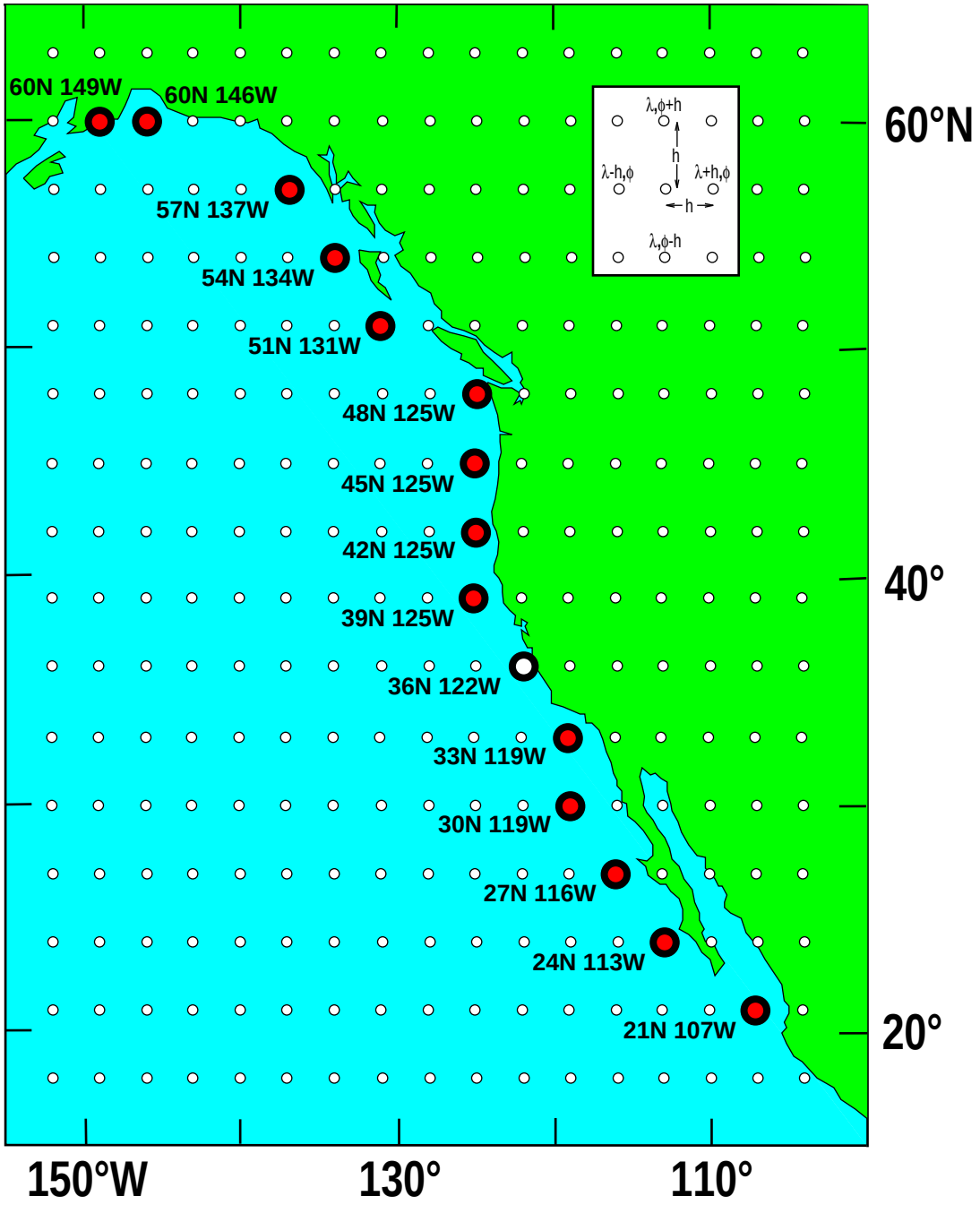


Figure 1. Map showing 3^{o} extrapolated mesh (small open circles) for pressure fields used to derive the upwelling indices. Large open circles denote locations of the 15 standard near-coastal positions of the indices reported here. Inset shows discretization scheme used to estimate geostrophic winds from pressure gradients (Equations 1 and 2).



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and managers concerned with marine ecosystems and their biota. The indices are currently distributed to about 50 regular users each month, and each year another 40-50 individuals request upwelling data or information on how they are derived. The distribution of users by their affiliation is shown in Figure 2. The chart on the left represents the distribution of individuals receiving upwelling index data on a monthly basis, while the chart on the right denotes the affiliation of individuals who have requested data or information since 1984.

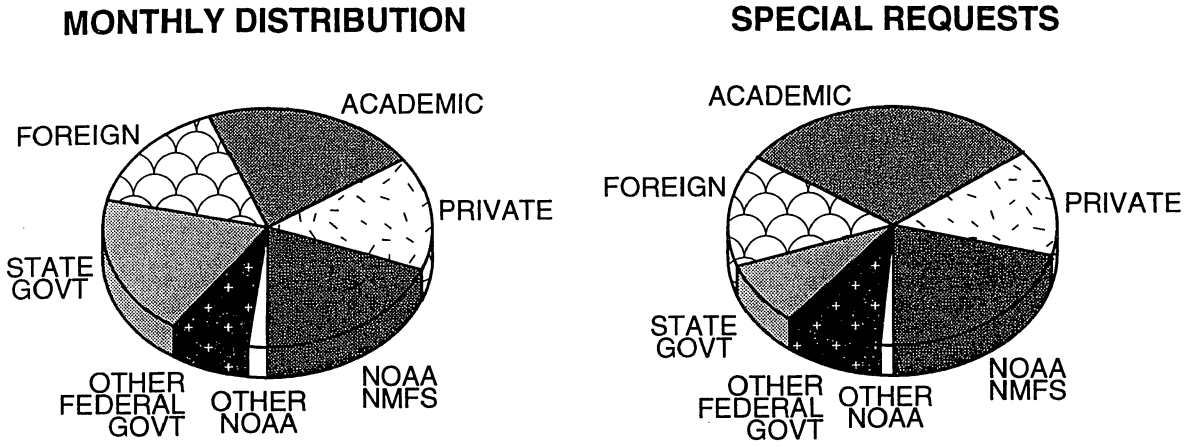


Figure 2. Charts showing distribution of users of upwelling index data and related information, by their type of affiliation. Left-hand chart shows distribution of individuals receiving upwelling products on a monthly basis. Right-hand chart shows distribution of special requests for upwelling products or information.

These series have been used in scores of studies and scientific publications; over 400 publications refer to the Bakun (1973) technical memorandum that initially described the upwelling indices. Examples include studies to describe coastal circulation (Bakun and Nelson 1977; Huyer 1983; Hayward *et al.* 1995; Thomson and Ware 1996); ENSO (Huyer and Smith 1985); and climate change (Bakun 1990; van Geen and Husby 1996); as well as in understanding the linkages between environmental and biological variability; zooplankton (Peterson and Miller 1977; Brodeur and Ware 1992), crabs (Botsford and Wickham 1975; McConnaughey *et al.* 1992), groundfish (Ainley *et al.* 1993; VenTresca *et al.* 1995), small pelagics (Parrish and MacCall 1978; Cury and Roy 1989; Parrish and Mallicoate 1995), salmon (Nickelson 1986; Fisher and Pearcy 1988; Hiss 1995), and marine birds (Ainley *et al.* 1993, 1995).

PFEG coastal upwelling indices are calculated based upon Ekman's (1905) theory of mass transport due to wind stress. Assuming homogeneity, uniform wind, and steady state conditions, the mass transport of surface water due to wind stress is 90° to the right of the wind direction in the Northern Hemisphere. Ekman mass transport is defined as the wind stress divided by the Coriolis parameter. The depth to which an appreciable amount of this offshore transport occurs is termed the surface Ekman layer, and is generally 50-100 m deep.

Ekman transports are resolved into components parallel and normal to the local coastline orientation. The magnitude of the offshore component is considered to be an index of the amount of water upwelled from the base of the Ekman layer. Positive values are, in general, the result of equatorward wind stress. Negative values imply downwelling, the onshore advection of surface waters accompanied by a downward displacement of water.

History of the Upwelling Index

PFEG began computing the upwelling indices in the early 1970's. Six-hourly synoptic surface pressure analyses from FNMOC, originally known as Fleet Numerical Weather Central and later as Fleet Numerical Oceanographic Center, were used to calculate two sets of upwelling index time series. One set is comprised of daily and weekly means of six-hourly upwelling indices, estimated from the FNMOC six-hourly synoptic pressure fields. Availability of synoptic data prior to 1967 is much more limited. The second set of indices are monthly time series derived from monthly-mean pressure fields, and extend back to 1946. The synoptic fields used to construct the monthly mean fields prior to July 1962 were acquired from a variety of sources (Bakun 1973), rather than FNMOC.

Bakun (1973) initially described the methods used to calculate the upwelling indices, and presented monthly, quarterly, and annual indices for 15 near-coastal positions along the North American west coast for the period 1946-71. Daily and weekly means of the upwelling indices at these standard west coast locations were published by Bakun (1975) for the period 1967-73. A third report in the series (Mason and Bakun 1986) summarizes the monthly indices for 1946-71, along with daily and weekly means of the six-hourly indices for 1974-85 at six locations along the U.S. west coast (33-48°N). Because of differences in the averaging period of the pressure fields, the daily and monthly series are not numerically equivalent nor directly interchangeable (cf. average annual cycles derived from daily and monthly values).

Methods

Bakun (1973) describes the computations for deriving the upwelling indices. Due to limited availability of that publication, the assumptions and calculations will be detailed here as well.

Historically, six-hourly and monthly mean pressure fields prepared by FNMOC on a 63 × 63 point square grid were superimposed onto a polar-stereographic projection of the Northern Hemisphere. The mesh length of this projection is 200 nm (370 km) at 60°N and decreases southward to about 144 nm (267 km) at 20°N. These data were then extrapolated to a 3^o mesh length on a spherical coordinate system using Bessel's central difference formula, to standardize the spacing of the pressure fields in subsequent derivations. After providing PFEG with several alternate pressure field grids over time, FNMOC currently produces six-hourly fields of surface pressure on a global spherical 1^o mesh (a 180 × 360 grid). The standard west coast six-hourly upwelling indices are a product of the 3^o pressure field interpolated from the global spherical 1^o grid. The monthly indices are derived from a 3^o mesh that is interpolated from the monthly-averages of the six-hourly 1^o pressures. The 3^o mesh for western North American and the Northeast Pacific, and the location of the 15 standard locations, is illustrated in Figure 1.

First derivatives of surface pressure P at each grid point are estimated by taking the difference in pressure between the grid points to either side and dividing by the 6^o angular mesh length (Figure 1 inset).

$$\frac{\delta P}{\delta \lambda} \cong \frac{P_{\lambda,\phi+h} - P_{\lambda,\phi-h}}{2h}; \qquad \frac{\delta P}{\delta \phi} \cong \frac{P_{\lambda+h,\phi} - P_{\lambda-h,\phi}}{2h}; \tag{1}$$

where ϕ and λ are the north and east angular coordinates, respectively, and h is the 3^o mesh length in radians.

The east (u_g) and north (v_g) components of the geostrophic wind are:

$$u_g = -\frac{1}{f\rho_a R}\frac{\delta P}{\delta \phi}; \qquad v_g = -\frac{1}{f\rho_a R cos\phi}\frac{\delta P}{\delta \lambda}; \tag{2}$$

where f is the Coriolis parameter, ρ_a is the density of air (assumed constant at 1.22 kg/m^3), and R is the mean radius of the Earth.

Assuming no friction, the geostrophic wind is parallel to local isobars, with low pressure to the left in the Northern Hemisphere; i.e., wind circulates counter-clockwise (cyclonic) around Northern Hemisphere atmospheric lows. To approximate frictional effects, the geostrophic wind at the sea surface is estimated by rotating the geostrophic wind 15^o to the left and reducing its magnitude by 30%.

Sea surface wind stress is calculated from the geostrophic wind using the classic square-law formula:

$$\vec{\tau} = \rho_a C_d |\vec{v}| \vec{v} \tag{3}$$

where $\vec{\tau}$ is the wind stress vector, ρ_a is the air density, C_d is an empirical drag coefficient, and $\vec{v}$ is the estimated wind vector near the sea surface with magnitude $|\vec{v}|$. A C_d of 0.0013 is used to calculate upwelling from the six-hourly surface pressure fields; the C_d is increased to 0.0026 when the monthly-mean pressure data is used. Nelson (1977) describes in detail why a larger C_d is necessary for the monthly calculations, but basically the monthly averaging of pressure smooths out synoptic atmospheric stability, storm energy, ocean roughness due to waves, etc. (Davidson 1974), as well as observations error. Doubling the C_d is an attempt to account for these differences.

The Ekman transport, $\vec{M}$, is calculated using:

$$\vec{M} = \frac{1}{f} \vec{\tau} \times \vec{k} \tag{4}$$

where $\vec{k}$ is the unit vector directed vertically upward.

The sign of the offshore component of the Ekman transport, $M_x = \tau^y / f$, where x is normal and y parallel to the local coastline orientation, is then reversed to reflect that negative (offshore) Ekman transport leads to positive (upwelling) vertical transport, and positive (onshore) Ekman transport leads to negative (downwelling) vertical transport. The upwelling indices are expressed in units of cubic meters per second per 100 meters of coastline, which is equivalent to metric tons/s/100 m coastline. These values are an index of large-scale coastal upwelling, a mean value representative of mass transport averaged spatially over approximately 200 nautical miles. Small-scale upwelling and downwelling events unresolved by the upwelling indices time and space scales may occur during the averaging period for a particular location.

Caveats

Bakun (1973, 1975) and Mason and Bakun (1986) discuss several caveats for the users of the upwelling indices. As described above, the daily and monthly indices are computed using different C_d values (Equation 3) and are not numerically equivalent. However there is considerable spatial inhomogeneity in the relationship between the daily and monthly series (Bakun 1973). A similar degree of seasonal and interannual variability occurs as well, as seen in the figures in Appendix A. Thus the use of a single adjusted C_d does not completely rectify this discrepancy, and comparisons of these data sets should be done with caution.

The previous reports also point out that the resolution of the gridded pressure fields does not resolve the short correlation scale of the atmosphere near coastal topography.

Bakun (1973) suggests this may lead to artificially high geostrophic winds adjacent to coastal mountain ranges. On a related issue, the distribution of individual pressure observations within an area will not be uniform in space or time, so the available information may misrepresent the true averaged pressure for a grid point at a given time. The patterns and total number of observations will change over time as well, imparting artificial trends or fluctuations in the series.

In addition, at least four different agencies have supplied pressure fields to allow PFEG to construct the 50-year series available today. Differences in the data and methods used by each to produce these fields appear to induce clear changes in the upwelling time series. FNMOC, who currently supplies the pressure fields, has changed the algorithms employed in generating their pressure fields at various times. This also appears to affect the derived indices. These changes should be taken into account when analyzing long-term trends or variations in the upwelling time series.

While the derivations of the indices are based on established theory, they are nonetheless a simplified and incomplete representation of the physics that drive coastal circulation and specifically Ekman transport. Upwelling is due to the combined effect of two processes; coastal upwelling (the process that is the basis of the indices described here) and Ekman pumping (wind curl, or the spatial variation in the wind). The latter process may be an equally important contributor to surface Ekman divergence and upwelling (Bakun and Nelson 1991), thus the reader is cautioned that the data presented here may not represent the true amount of upwelling. In addition, the calculations are based on numerous assumptions and simplified parameterizations, to ease computation and, in some cases, because we can only approximate the true physical world at this point. Future research will no doubt reveal formulations that will improve our representation of coastal dynamics. However the calculations applied in this case do provide a reasonable representation of Ekman transport in the coastal zone, given our current state of knowledge.

Results

A thorough analysis and interpretation of this 50-year record of upwelling indices is beyond the scope of a technical memorandum, but a few details of these data will be highlighted. The reader will find considerable insight from examination of the figures in this report, and we anticipate it will inspire further studies. The daily, weekly and monthly upwelling indices, and their climatologies, are summarized in a series of appendices.

The means and standard deviations of monthly values are calculated for each calendar month for the 25-year period, 1967–91. These are summarized in Figure 3, shown by position in Appendix A, and contoured as a function of time and latitude in

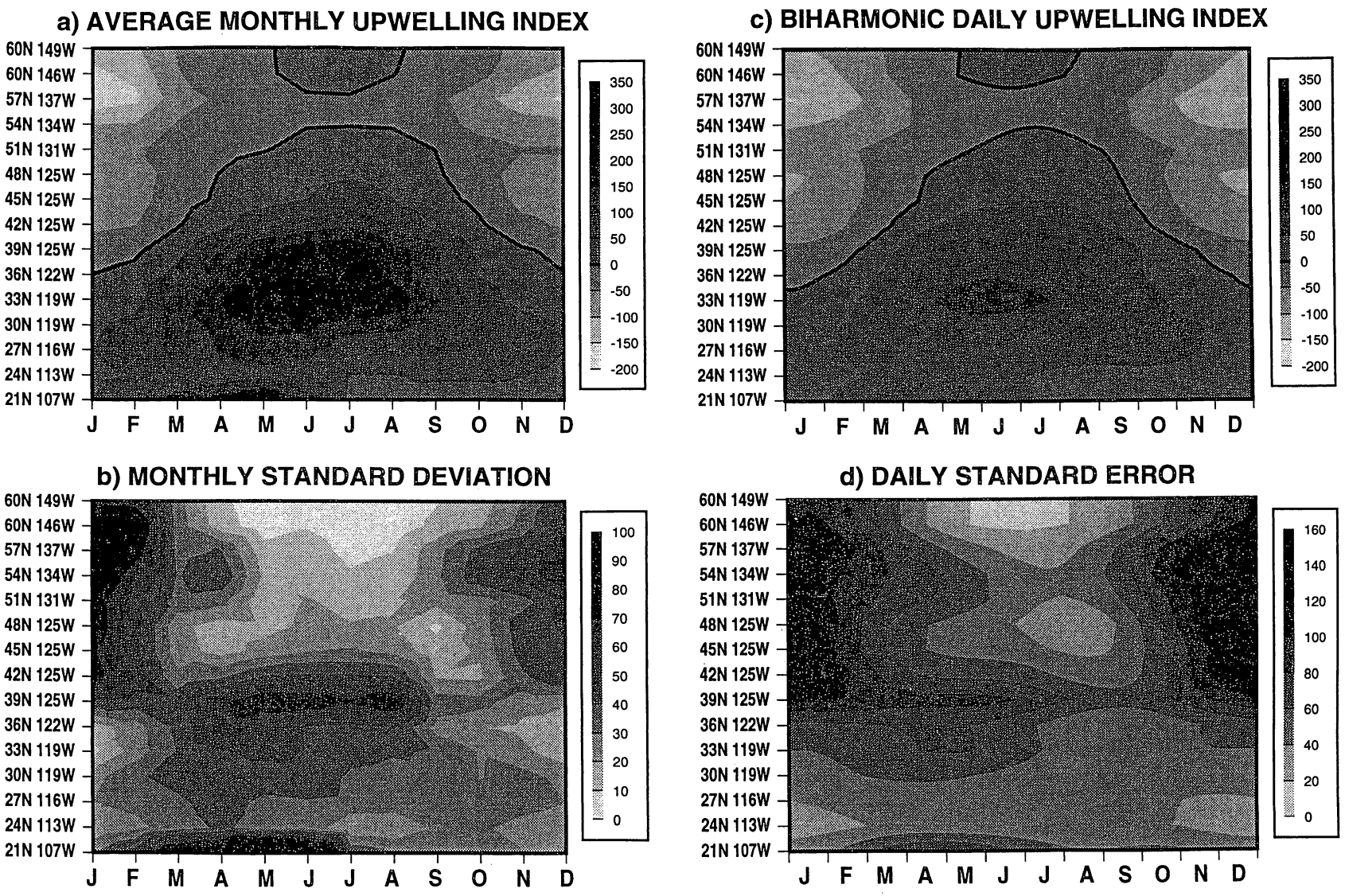
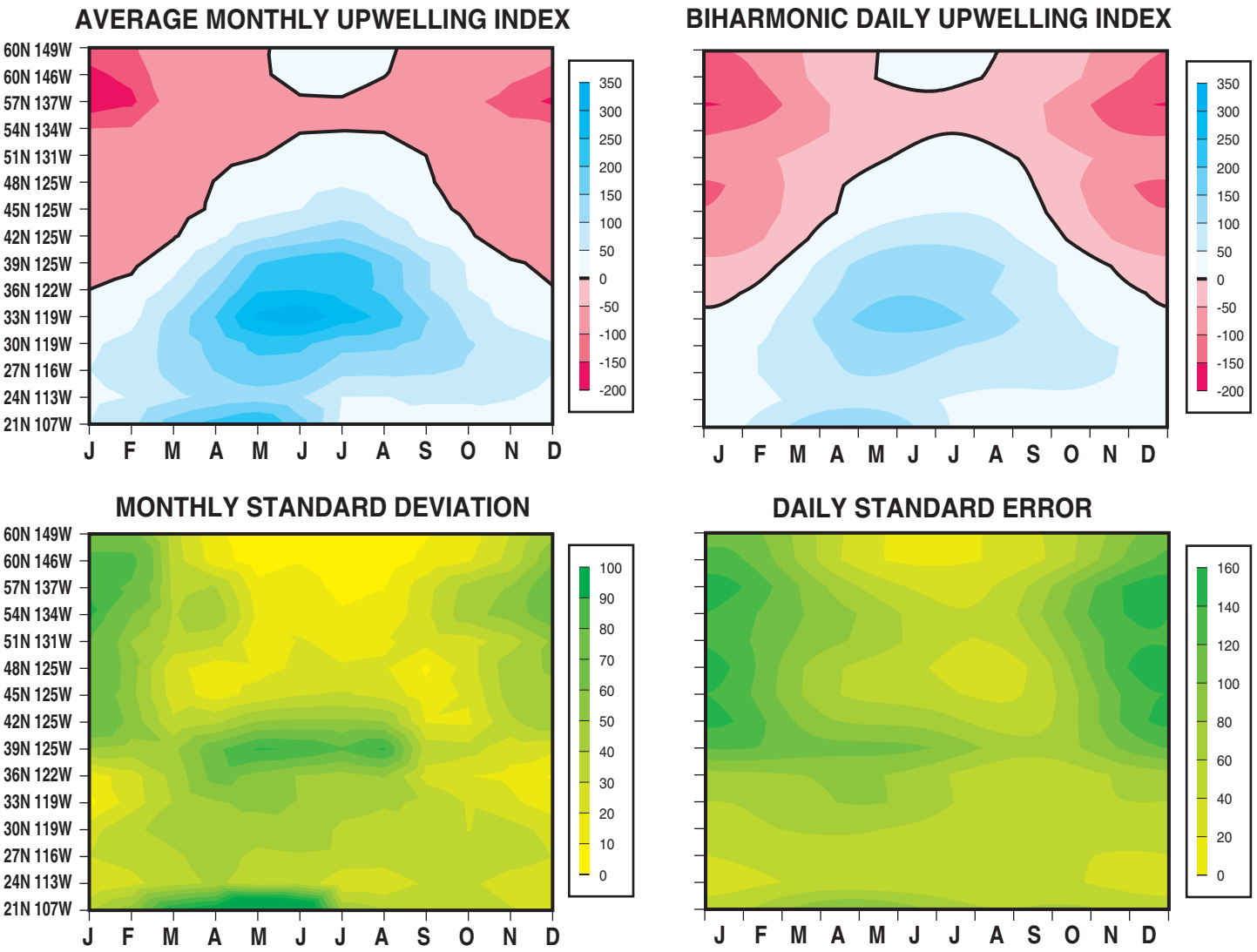


Figure 3. a) Average monthly upwelling index contoured by position and month. Average is for 1967-91. b) Standard deviation of monthly indices for same period. c) Biharmonic fit to daily data for 1967-91. d) Standard error of daily indices for same period. All data contoured by position and time. Darker shading denotes higher upwelling values and greater variance. Units are $m^3/s/100m$.



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Appendix C. These values are also used to calculate anomalies from the means of the calendar months (Appendices B, C, and D). Standard anomalies, the anomalies divided by the standard deviation for the calendar month, are contoured in Appendix C.

The upwelling maximum is centered along southern California during summer (Figure 3a). Minima occur at all latitudes in the winter, with negative (downwelling-favorable) means occurring north of 36°N during at least one month of the year. Downwelling is a year-round feature along the British Columbia coast. Times of greatest absolute monthly indices at a location correspond closely with the months of highest interannual variation (Figure 3b). Standard deviations south (north) of 45°N are greatest in summer (winter). The greatest summer variance (ca. 39°N) coincides with the maximum spatial gradient in the mean index, suggesting that interannual shifts in the position of strongest upwelling, rather than in the timing of the upwelling cycle, are responsible for the high standard deviations. The latitude of the highest temporal gradients (33°N) does not have corresponding high standard deviations, further supporting this idea. In contrast, the highest winter deviations do not occur in a region of high spatial or temporal gradients. Thus the more likely explanation for the winter variability is interannual differences in the large-scale subarctic pressure field (e.g., variability in the Aleutian Low), rather than shifts in the timing or position of maximum downwelling wind conditions.

Because the annual upwelling cycle is roughly sinusoidal, the shape of the annual cycle is estimated at each of the 15 grid points by a least-squares regression of the daily data from 1967–91 to an annual and semiannual harmonic signal (Lynn *et al.* 1967; Hayward *et al.* 1995). The biharmonic equation is of the form

$$UI(t) = A_0 + A_1 \cos(2\pi t) + B_1 \sin(2\pi t) + A_2 \cos(4\pi t) + B_2 \sin(4\pi t) \qquad (5)$$

where t is the Julian Day/365 and the A_i and B_i are coefficients determined by the regression for each point, given in Table 1. The fits are not improved significantly by including higher harmonics. Identical 25-year periods were selected for the daily and monthly data to provide an intercomparison of their annual climatologies (Appendix A). Standard errors were calculated for each Julian Day, then fit with the same biharmonic model (Equation 5). The daily harmonic indices and standard errors are contoured as a function of latitude in Figures 3c and 3d, respectively. The biharmonic fits also are regressed against the original 25-year subseries, and against the 25-year subseries that have been low-passed with a Chebychev Type I fifth-order filter with a 30-day cutoff (Table 1). To give an example of the degree of variability in the daily values, the annual biharmonic cycle ± 1 standard error determined at 39°N, 125°W is superimposed on the daily indices from 1967–91 (Figure 4). The last column of Table 1 gives R', the ratio of the variance squared from the unfiltered and low-passed daily fits. Higher values of R'

COEFFICIENTS OF BIHARMONIC FITS TO DAILY UPWELLING INDICES, 1967-91

LOCATION	A_0	A_1	B_1	A_2	B_2	r	r_{lp}	R′
60°N 149°W	-37.287	-53.183	-6.842	-9.719	-4.486	.490	.755	.579
60°N 146°W	-44.536	-62.127	-5.993	-13.378	-5.456	.519	.787	.565
57°N 137°W	-68.909	-74.021	-1.195	-9.749	-0.358	.465	.777	.642
54°N 134°W	-54.165	-51.308	-0.789	0.360	5.797	.336	.612	.699
51°N 131°W	-27.174	-43.003	-4.451	-0.844	4.380	.303	.550	.696
48°N 125°W	-27.453	-70.727	0.250	-9.419	4.451	.478	.755	.599
45°N 125°W	-17.529	-73.288	-3.643	-7.457	4.349	.512	.771	.559
42°N 125°W	9.393	-84.768	-0.425	-5.934	-1.968	.523	.771	.540
39°N 125°W	57.170	-90.476	2.208	-0.179	-9.102	.528	.764	.522
36°N 122°W	67.107	-72.480	13.400	-0.530	-11.340	.605	.855	.499
33°N 119°W	89.647	-82.883	19.090	-1.157	-10.126	.676	.913	.452
30°N 119°W	78.032	-35.620	10.327	-4.934	-7.963	.442	.728	.631
27°N 116°W	68.494	-23.915	11.986	-6.964	-8.421	.397	.654	.632
24°N 113°W	47.294	-12.478	14.230	-8.468	-9.965	.358	.609	.654
21°N 107°W	62.773	-21.426	61.613	-13.733	-23.077	.550	.721	.418

Table 1. Coefficients of biharmonic fits to daily upwelling indices for period 1967-91, at each position, from Equation 5. The column r gives the correlation coefficients of regressions between the biharmonic model and daily data. The column r_{lp} gives the correlation coefficients of regressions between the model and low-pass filtered daily data. The column R' gives the ratio of the variance squared from the unfiltered and low-passed daily biharmonic fits (r^2/r_{lp}^2).

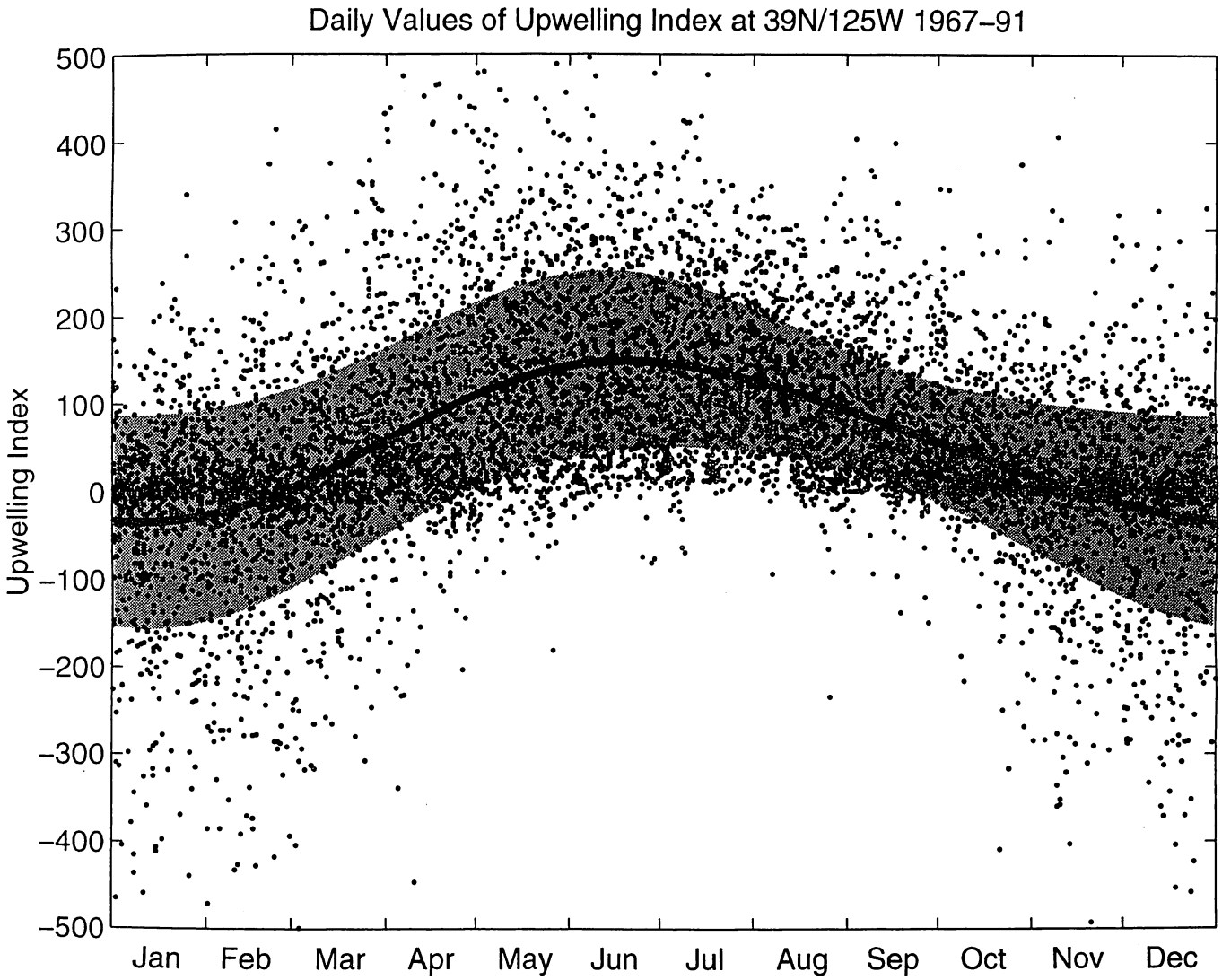

Figure 4. Annual biharmonic fits to daily upwelling indices at 39^{o}N, 125^{o}W (bold curve), +/- one standard error for each Julian Day (shaded area), for period 1967-91. Dots denote individual daily index values for same period. Units are $m^3/s/100m$.

denote locations where the amount of high-frequency (synoptic) variance is relatively large compared to low-frequency (interannual) variance.

The characteristics of the annual upwelling cycle at each point, based on the biharmonic fit to the 1967–91 daily values, are summarized in Figure 5. The North American west coast appears to break down into three distinct upwelling regions; Baja California (21–30°N), continental US (30–48°N), and British Columbia and Alaska (48–60°N). The annual range off Baja California is relatively small, with wintertime values of less than 50 $m^3/s/100m$ and summer maxima of 75-150 $m^3/s/100m$. The timing of strongest upwelling increases from late April at 21°N to late May at 30°N. The time of minimum upwelling occurs within about ±15 days of 1 January, a pattern repeated the length of the coast. This region is also characterized by secondary minima and maxima in August and October, respectively (more technically a pair of inflection points in the annual curves at 27°N and 30°N). In contrast, annual cycles north of 30°N have a strong sinusoidal (12-month harmonic) signature. The greatest upwelling rates occur at 33°N, with a linear decrease in the maximum upwelling indices north to about 54°N. The greatest annual range occurs at 39°N. The timing of the maximum continues the appearance of northward propagation, with maximum rates off Oregon and Washington lagging those at 21°N by about 80 days (ca. 25 km/d). Maximum values north of Washington are about zero, and occur in June–July. Minimum indices of about -100 $m^3/s/100m$ occur in ca. 1 January.

The phase of maximum upwelling corresponds with climatological surface conditions along the coast (Lynn 1967). Maximum salinity occurs in May off northern Baja, June-July off southern California, and July and August along central California (ca. 36–38°N). Salinity maxima along southern Baja occur in fall, coinciding with the secondary upwelling maximum. The temperature mimima found by Lynn in upwelling regions, typically in April–May, is impacted substantially by the seasonal surface heat flux and agrees less well with the time of greatest upwelling. The relationship between the annual cycle of upwelling and temperature and salinity is also complicated by advection along the coast, and is influenced by the surface water masses of the California Current.

Annual cycles for the daily and monthly data sets are compared in Figure 3, and in a series of plots in Appendix A. It appears that upwelling indices derived from *monthly* pressure fields overestimate the magnitude of upwelling and downwelling based on monthly averages of the *daily* values. This discrepancy is most evident during the months of the highest absolute values at each location (e.g., monthly indices overestimate winter downwelling at the northern points, and summer upwelling at the southern points). Bakun (1973) discusses the disparity between the daily and monthly indices, and shows the monthly values underestimate the monthly means of the six-hourly Ekman transports by as much as 50%, provided the same value of C_d is

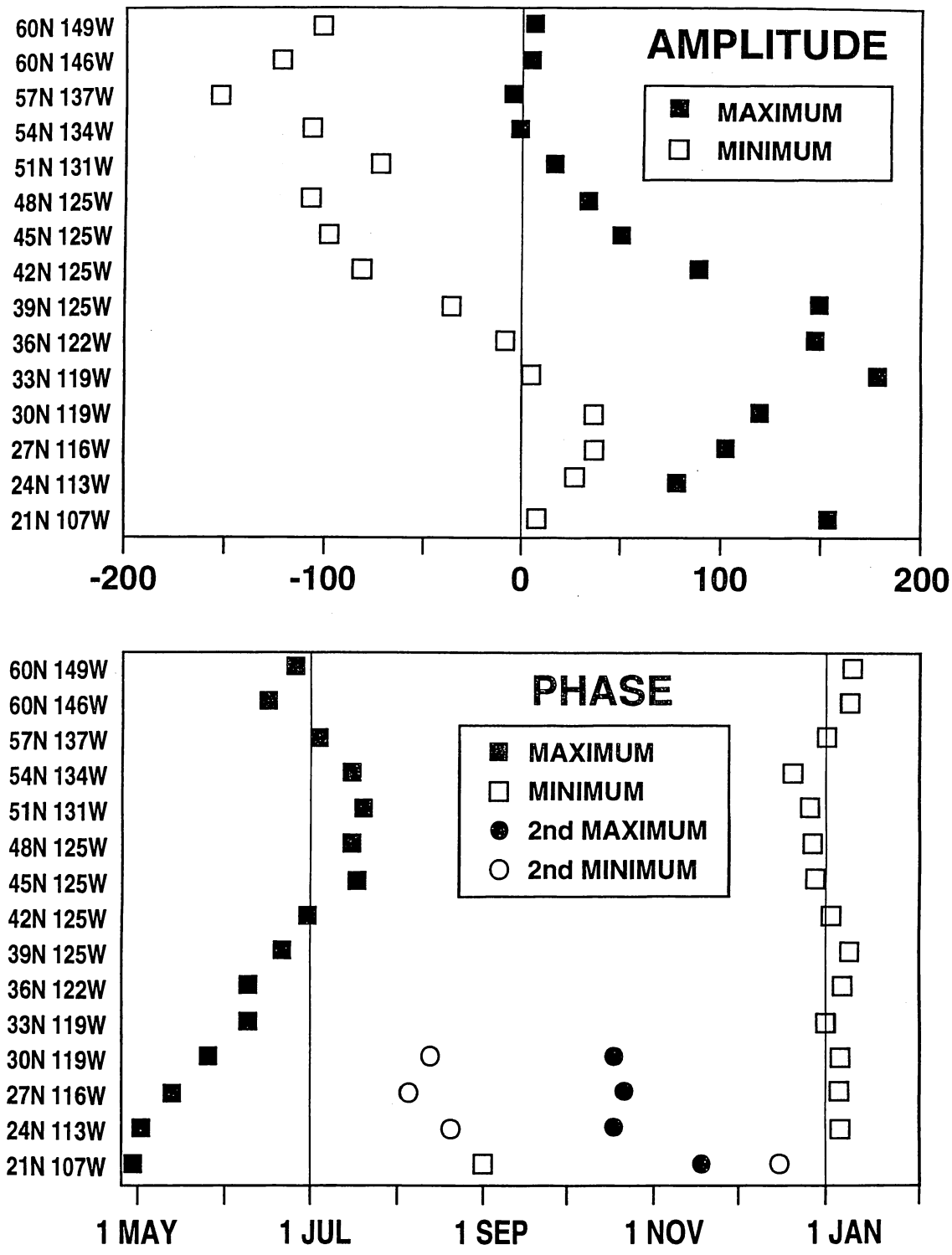

Figure 5. Characteristics of annual cycle of daily upwelling, based on biharmonic fits for period 1967-91. Upper panel shows maximum and minimum amplitudes of annual cycle at each position. Lower panel shows calendar dates of maxima and minima at all locations, and secondary maxima and minima for 21-30°N. Units are $m^3/s/100m$.

used for both (Equation 3). Bakun showed this distortion varies with location as well. Put another way, doubling the C_d in the monthly stress calculations leads to a 130% overestimate of the daily upwelling rates off Alaska, and a factor of two overestimate off southern and Baja California. In addition, Bakun had only 54 months of data available for comparison, so his analysis could not consider whether these differences have a seasonal effect. With 25 years of simultaneous daily and monthly data now available, our preliminary interpretation, as reflected in Figure 3 and Appendix A, is that the relative discrepancy between the two data sets varies with season as well as latitude. We are currently developing a more complete analysis that will hopefully allow the monthly indices to be adjusted temporally and spatially to reflect more realistic estimates of coastal upwelling.

The annual pattern of the daily standard errors separates into geographic regions. Winter conditions are much more variable than summer north of 39°N. Variance is more evenly distributed throughout the year from 24–39°N, with slightly elevated standard errors in spring and a late summer minimum. The seasonal pattern is particularly flat along Baja. The southernmost site is unique in its unusually high variance in late spring, possibly an artifact of changes in the pressure field model used by the Navy.

A comparison between the standard errors of the daily values and the monthly standard deviations reveals some interesting differences (Figure 3). Since $s.e. = s.d./\sqrt{n}$, where n is the sample size, 25 in this case, the standard errors are consistently and substantially greater than the associated monthly deviations. The difference is due to the high degree of variability on a given day associated with synoptic atmospheric motions. These are averaged out in the monthly pressure fields; the monthly deviations reflect large-scale interannual variations while the daily variance is a combination of random storminess in addition to interannual differences. The quantitative differences between these two estimates of variance at a location is therefore an indication of the relative contribution of synoptic and interannual variations. Areas north of 42°N and south of 33°N feature similar annual patterns. Off central and southern California however monthly standard deviations peak in spring and remain relatively high through the summer, while daily standard errors decline rapidly between late winter and summer. This difference is particularly strong at 39°N. Relatively greater wintertime synoptic energy at these latitudes is reflected in the dramatically different annual cycles in daily versus monthly variance. This pattern also agrees with the spatial distribution of R' (Table 1).

The anomalies of the monthly upwelling indices, relative to the 25-year mean of the monthly values for 1967–91, are presented for each location in Appendix B. Means and standard deviations for each calendar month are also given at the bottom of each page.

In Appendix C, plots of the monthly upwelling indices, the monthly anomalies, and the anomalies normalized by the standard deviations for each calendar month are shown. The continuity of anomalies in time and space can be seen in this format The data are broken into five ten-year periods for ease of presentation. The anomalies plotted here are given in the tables in Appendix B. One of the most striking highlights of these figures is the relatively short duration of significant positive and negative anomalies, despite the large spatial extent of most of the anomalies. Strong ENSO events (e.g., 1957, 1983, 1992) correspond to significant negative anomalies along much of the U.S. coast. Positive and negative upwelling anomalies correspond closely to cool and warm coastal SST anomalies, respectively, calculated by Cole and McLain (1989) for the period 1971–87, suggesting that SST interannual variability is related to differences in coastal upwelling, which is approximated reasonably well by these indices.

Anomalies of monthly upwelling indices, as given in Appendix B, are plotted as 50-year time series for each location in Appendix D. Again the short duration of large anomalies (typically a few months) is apparent. These time series also display the spatial coherence of many of the anomalies. These series also feature sudden shifts in the temporal pattern of the indices. One example is the relatively poor fit of the annual mean prior to 1955 off southern California, reflected in the apparently large annual signal in the anomalies. Another example is the dramatic change in 1976 at 21°N, which is due to a shift in the summer indices. These changes are also apparent in the anomalies in Appendix B and in the contour plots in Appendix C. These changes in the patterns of the indices are questionable, and may be attributed to changes in the source of the monthly pressure fields (Bakun 1973), or in the methodology used to interpolate the gridded pressure fields used to calculate these indices.

The final set of figures (Appendix E) contains a series of plots, by year, of daily and weekly-averaged upwelling indices for 1986–1995. Superimposed on each figure is the annual biharmonic fit to the daily indices for that location. The shaded area covers ± one standard error from the mean. Periods of anomalously strong and weak upwelling and downwelling, typically on the time scales of storms and other atmospheric events, can be quickly identified in these figures as outliers from the standard error envelope. The plots are separated by location.

Modernization

Rapid advancements in computing and communications since the initial development of the upwelling index over two decades ago have led to more accurate and efficient calculation and distribution of the products described here. Several factors contribute to improved data quality and more timely distribution. Collection of surface pressure data is now more routine and the oceans are now covered more completely with observations

than in the past. Models employed by the Navy to interpolate the gridded fields from observations have been improved. High-speed desktop computers, high-resolution printers, and modern graphics software are now available to produce the data products efficiently, economically and with much higher quality. Finally, new telecommunication methods and procedures such as e-mail, file transfer protocol (ftp), and the Internet, allow large volumes of data and model output to be transferred between computers, stored more efficiently and securely, and processed in a more portable fashion. Hard copy delivery is rapidly giving way to electronic transmission of the upwelling indices and products, which provides scientists and managers much quicker access to information than in the past. Within the next year, we envision having the upwelling indices and many other PFEG data products available on our world-wide web home page (*http:/www.pfeg.noaa.gov*). This will make information easily accessible to a wider spectrum of users as soon as it is generated.

We are also looking at ways to improve the value of the upwelling index. First, differences between the daily and monthly indices as a function of time and location are being analyzed in greater detail, which will allow the monthly indices to be adjusted to represent coastal upwelling rates more realistically. Alternative derivations of upwelling are being evaluated (e.g., including frictional effects and the role of wind curl). While these factors may be less critical at the standard points summarized here, such modifications certainly will be important in other ocean regions. Other analyses are relating the upwelling index time series to series based on measured winds, as well as other environmental variables that represent upwelling (e.g., coastal sea level, SST). This will lead to a better understanding of how well the indices actually represent coastal upwelling. Finally, we will continue to interact with researchers using the indices to link environmental and fisheries variability, to learn where these series may not be biologically relevant and, more generally, what type of information may be most useful to them. All these improvements will contribute to the long-term goal of producing an environmental index that has greater utility for biologists, fisheries scientists and resource managers.

While the upwelling indices described here are by far the most popular product that PFEG derives from the surface pressure fields, they are but one of several atmospheric and oceanic products presently generated from the six-hourly pressures. The following derived fields are currently available from PFEG for the 15 standard points and the entire North Pacific and Atlantic Oceans on 3^o and 5^o grids:

SEA LEVEL PRESSURE
SURFACE GEOSTROPHIC WIND VECTOR (east and north components)
SURFACE WIND STRESS VECTOR (east and north components)
CURL OF WIND STRESS

CUBE OF WIND SPEED
EKMAN TRANSPORT VECTOR (east and north components)
OFFSHORE EKMAN TRANSPORT COMPONENT
DIRECTON OF OFFSHORE EKMAN TRANSPORT COMPONENT
VERTICAL VELOCITY INTO EKMAN LAYER
SVERDRUP TRANSPORT

In addition, the following fields are generated for the entire North Pacific:

TOTAL SURFACE TRANSPORT (east and north components)
TOTAL INTEGRATED TRANSPORT
INTEGRATED GEOSTROPHIC TRANSPORT

While all of these fields are based on fundamental physical theory, most have not been analyzed nor applied to scientific problems. It is our hope to conduct a critical analysis of these other products and promote their use by researchers and managers. A future technical memorandum is planned that will summarize some of the more important products. In the interim, they are available to interested parties, and we encourage their use.

Acknowledgments

The upwelling indices are a product of years of development and improvement by scores of individuals. We are indebted to Andrew Bakun for originally developing the upwelling index, commonly referred to as the Bakun index. James Johnson, Gunter Seckel, and Douglas McLain provided advice in its initial development. David Husby, Craig Nelson, Richard Parrish, Roy Mendelssohn, Jerrold Norton, Arthur Stroud, and George Boehlert are among our many former and current colleagues at PFEG who contributed advice, stimulating discussion and valuable information, and suggested improvements. David Cole, Christie Johnson Sharp, and Heather Parker are acknowledged for their efforts in producing and distributing these indices each month. Tone Nichols is particularly recognized for generating most of the graphics and for her technical support. David VenTresca (California Department of Fish and Game, Monterey) and Ronald Lynn (NMFS Southwest Fisheries Science Center, La Jolla) graciously reviewed this manuscript. Analyzed digital atmospheric pressure data, computing and graphical facilities, and considerable logistical support were provided by U.S. Navy, Fleet Numerical Meteorology and Oceanography Center. Finally, we are grateful to the many scientists who have applied the indices in their research, and have given us valuable suggestions for their improvement.

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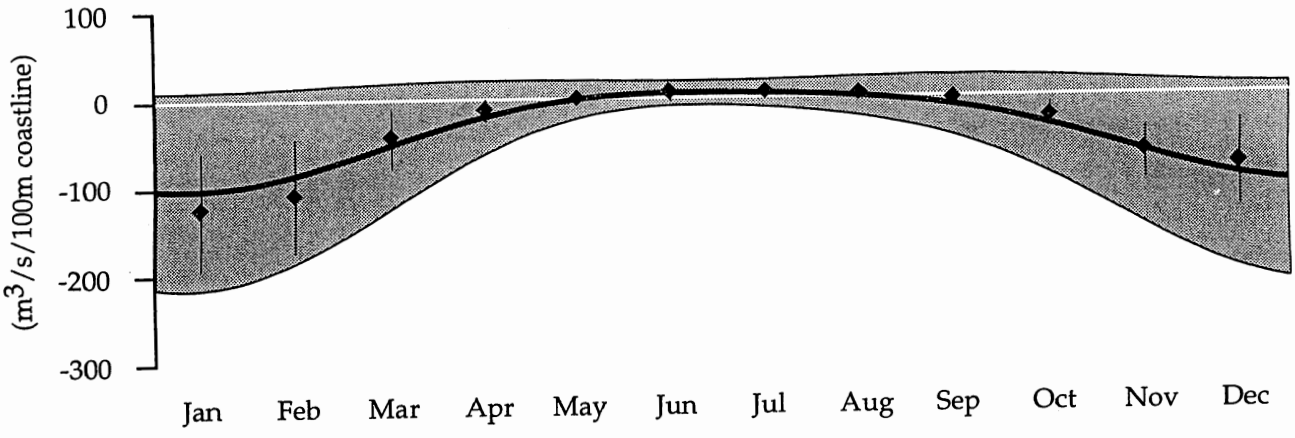
APPENDIX A - ANNUAL CYCLES OF DAILY AND MONTHLY UPWELLING INDICES

The following five pages show the annual cycle of upwelling at the 15 standard locations. The diamonds denote the mean of the **monthly** upwelling indices for each calendar month for the period 1967–91. The vertical bars denote ± one standard deviation for each calendar month. The bold curve is a biharmonic fit to the **daily** upwelling indices for the period 1967–91, estimated by a least-squares regression of the daily data to an annual and semiannual harmonic signal (Equation 5). The shaded area around the biharmonic curve denotes ± one standard error, calculated for each Julian Day. Three locations are shown on each page, from north to south.

The units are metric tons per second per 100 m of coastline (or equivalently cubic meters per second per 100 meters of coastline). These units may be thought of as the average amount (in 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 and the previous three related NOAA Technical Memoranda, these indices should be considered as indicative of short-term relative fluctuations at a location rather than as quantitative measures of absolute magnitude.

UPWELLING INDICES: 60N 149W



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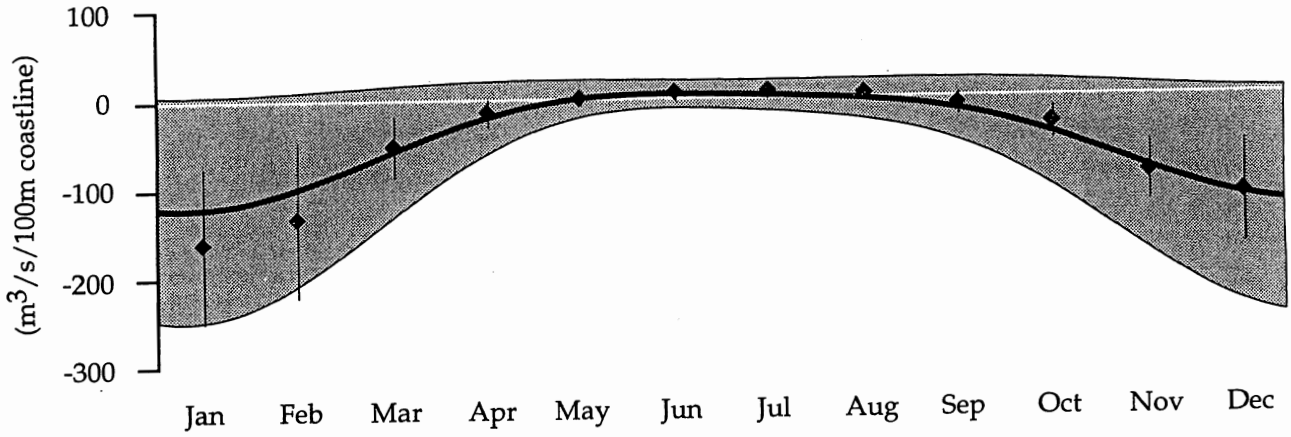

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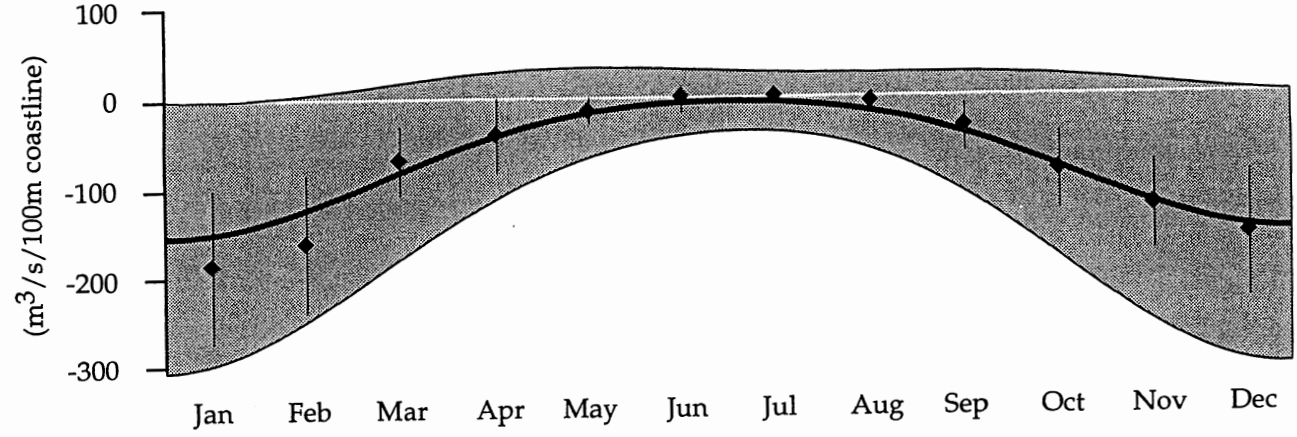

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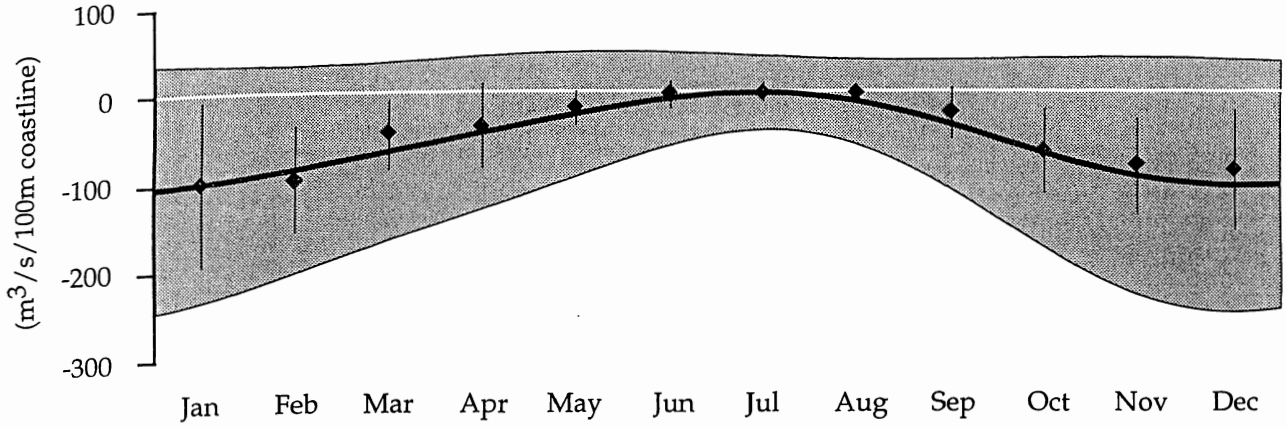

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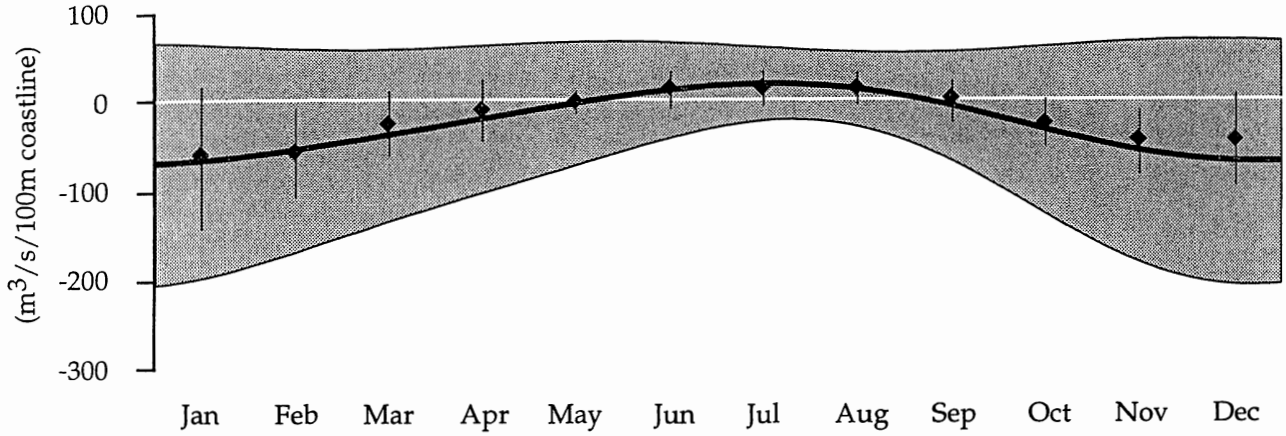

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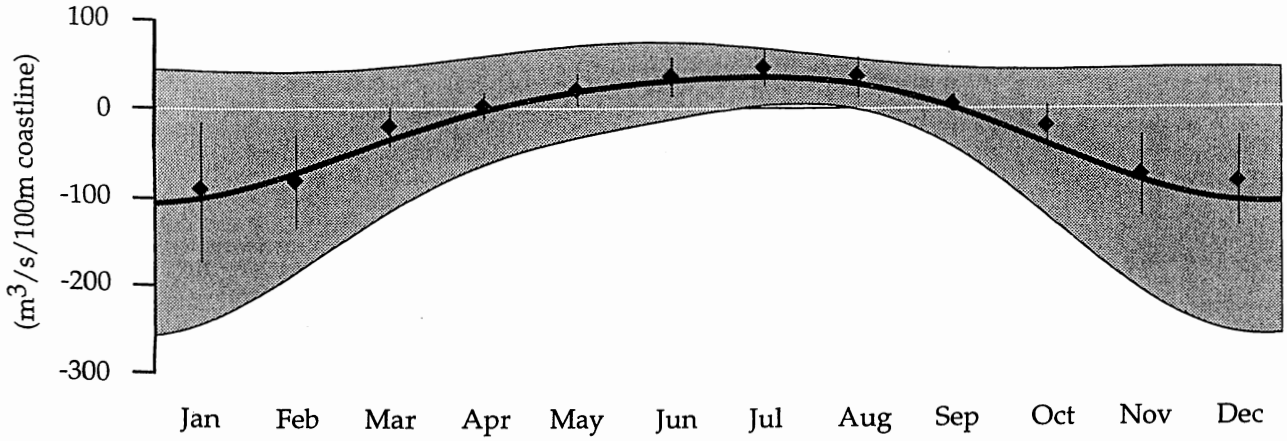

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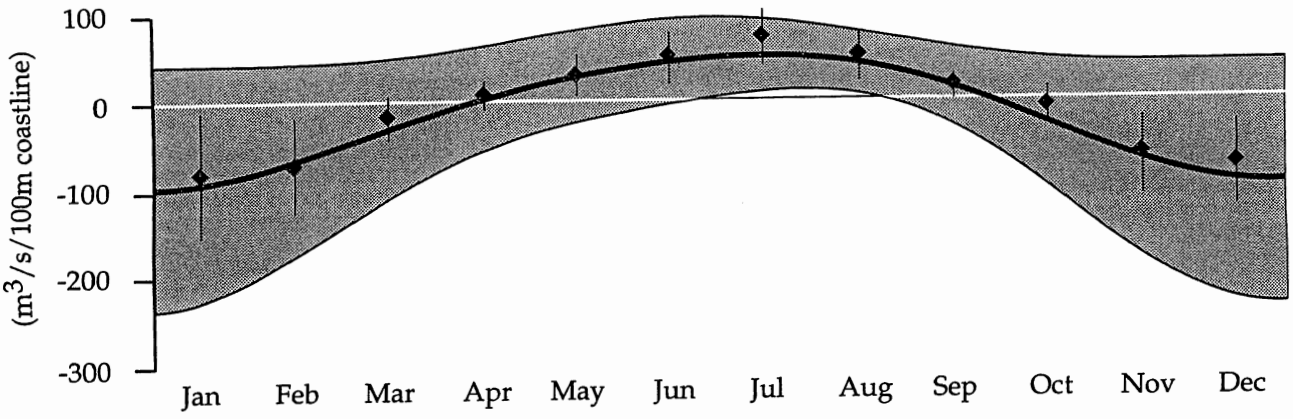

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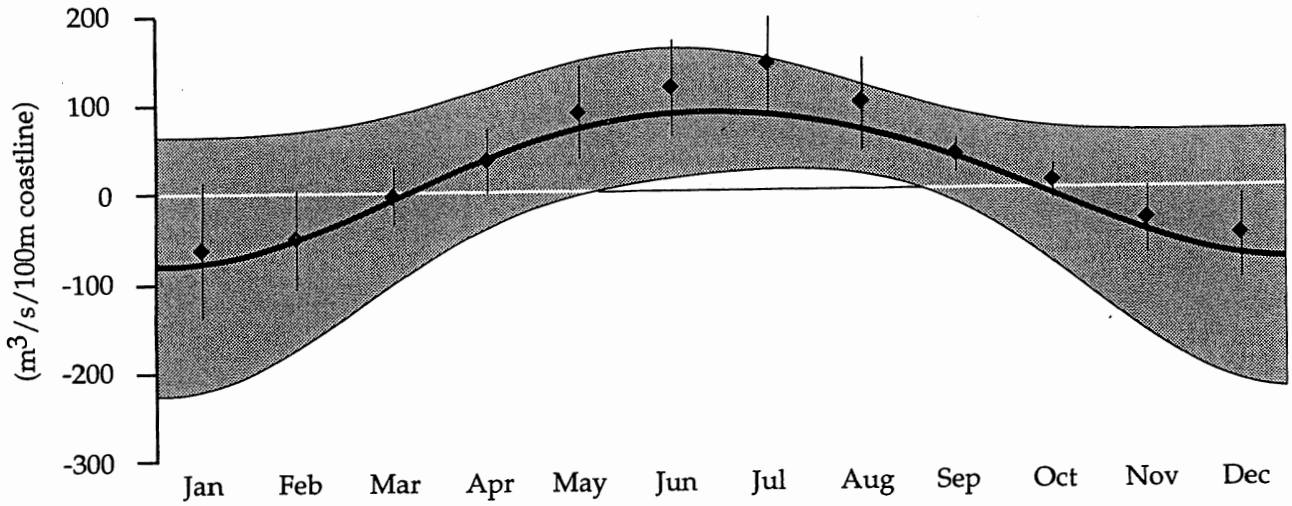

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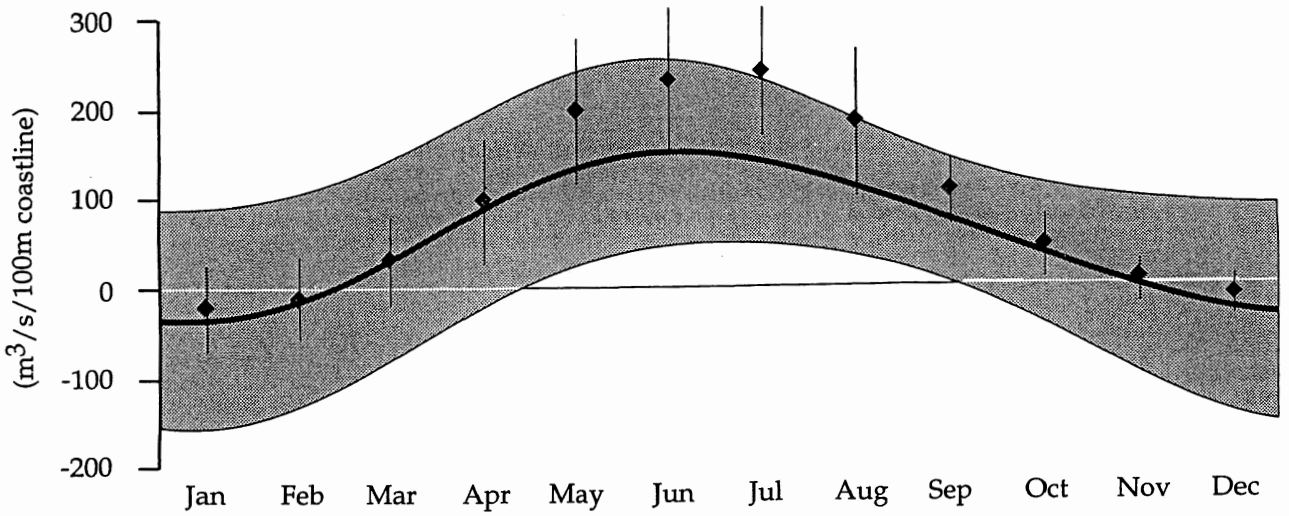

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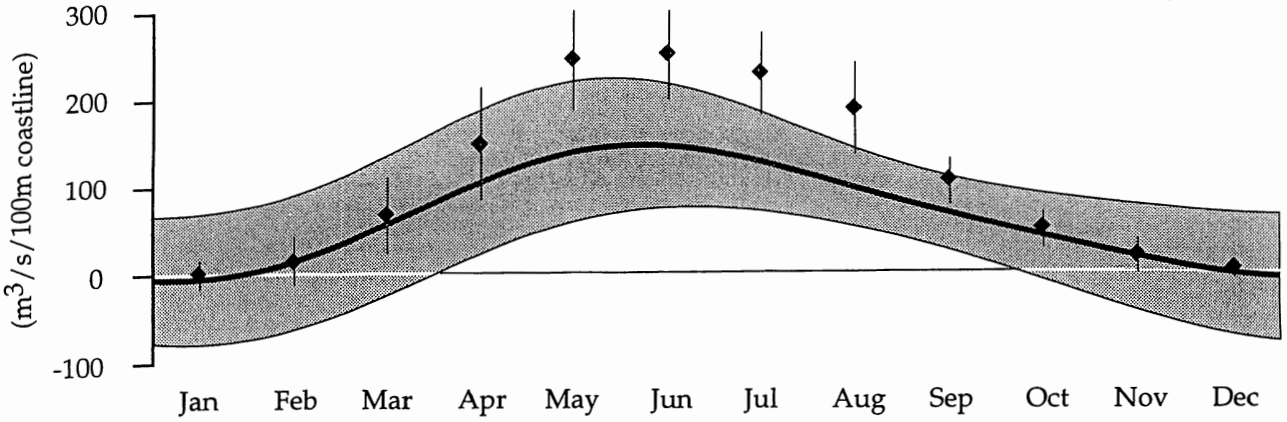

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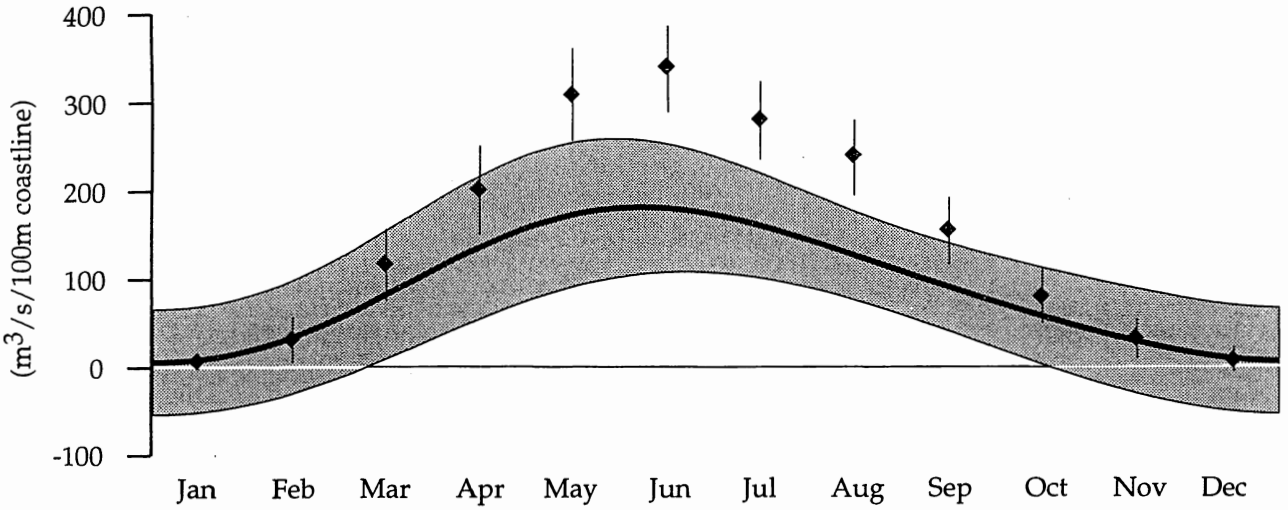

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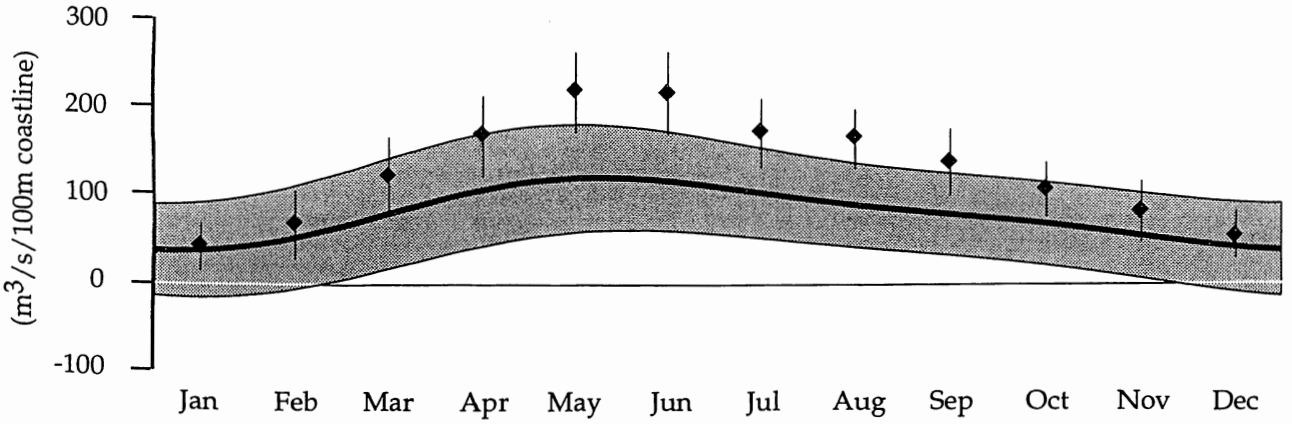

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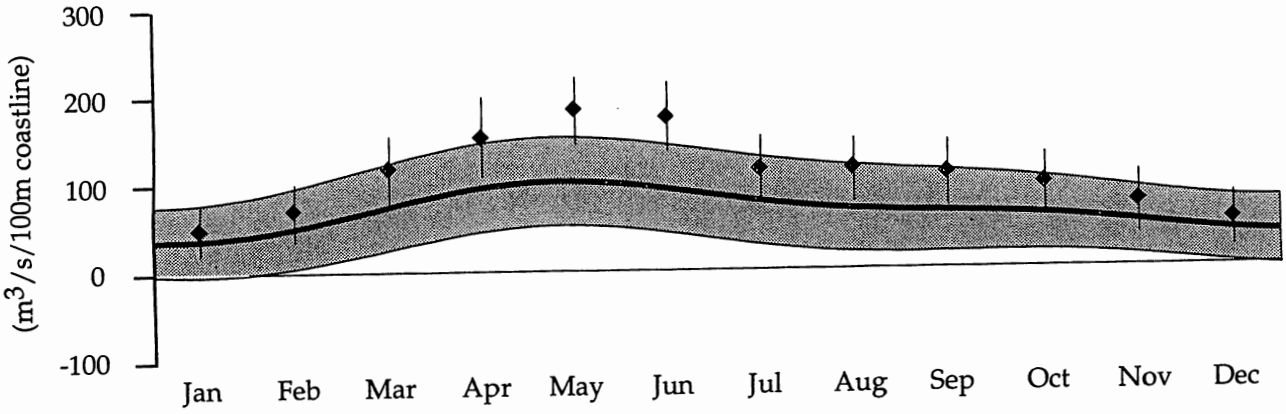

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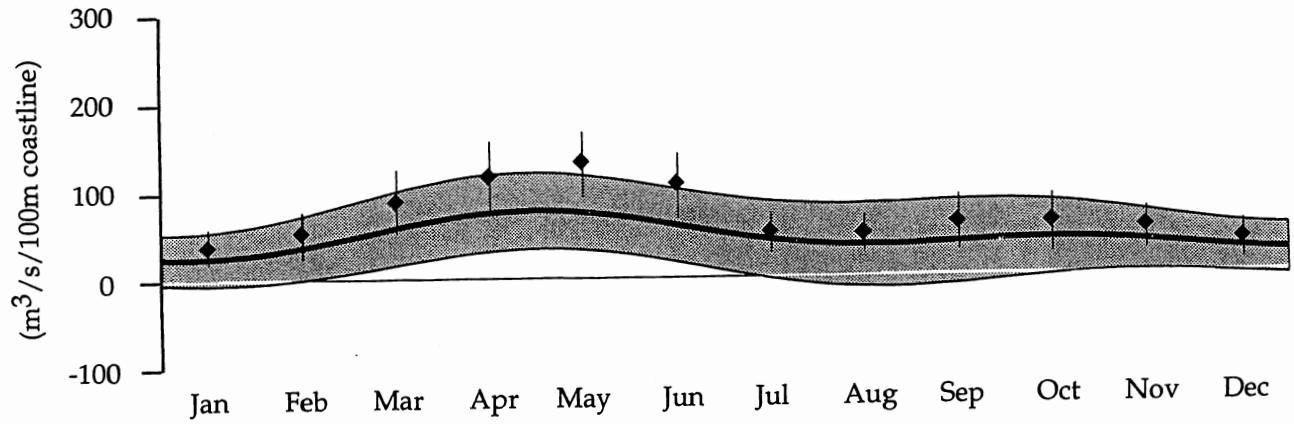
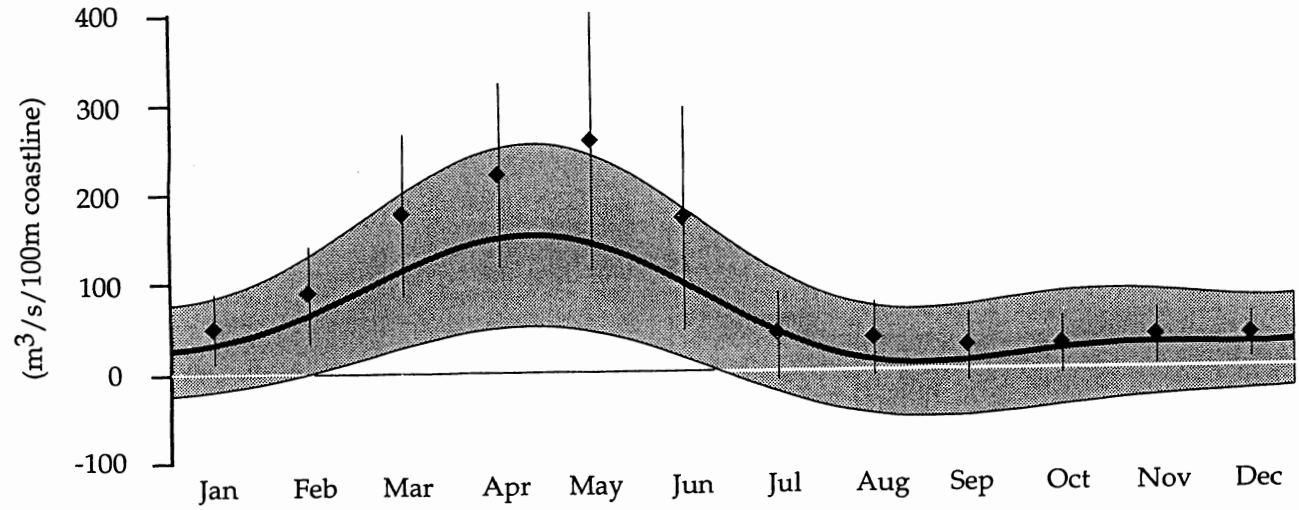


UPWELLING INDICES: 21N 107W



APPENDIX B - TABLES OF MONTHLY ANOMALIES OF UPWELLING INDICES

The anomalies of the monthly upwelling indices are presented in separate tables for each of the 15 standard west coast locations. The anomalies are relative to the 25-year mean of the monthly values in each month for the period 1967–91. The first column denotes the year. The twelve columns to the right contain the anomaly values for each calendar month. The means and standard deviations for each calendar month are given in the last two rows of each table.

The units are metric tons per second per 100 m of coastline (or equivalently cubic meters per second per 100 meters of coastline). These units may be thought of as the average amount (in 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 and the previous three related NOAA Technical Memoranda, these indices should be considered as indicative of short-term relative fluctuations at a location rather than as quantitative measures of absolute magnitude.

MONTHLY ANOMALIES 60°N, 149°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	102.7	38.0	17.4	4.9	-0.0	-3.0	-5.5	3.5	-10.4	40.4	6.0	9.4
1947	63.7	13.0	27.4	-1.1	1.0	-5.0	3.5	3.5	4.6	-17.6	39.0	65.4
1948	95.7	26.0	14.4	-11.1	-1.0	2.0	7.5	2.5	5.6	17.4	-6.0	41.4
1949	113.7	31.0	38.4	-6.1	2.0	2.0	-2.5	-0.5	3.6	17.4	18.0	17.4
1950	84.7	-273.0	7.4	-12.1	-1.0	-5.0	-5.5	-3.5	2.6	4.4	-97.0	-9.6
1951	-0.3	94.0	-30.6	12.9	2.0	5.0	-1.5	6.5	-2.4	-2.6	15.0	56.4
1952	-78.3	41.0	30.4	5.9	1.0	-2.0	4.5	-2.5	-3.4	10.4	39.0	-32.6
1953	-146.3	74.0	2.4	-1.1	3.0	-4.0	-4.5	7.5	2.6	-28.6	-19.0	13.4
1954	-72.3	17.0	41.4	-16.1	-1.0	-7.0	-2.5	9.5	4.6	2.4	23.0	-31.6
1955	85.7	57.0	36.4	8.9	2.0	6.0	1.5	3.5	3.6	15.4	-65.0	-70.6
1956	-137.3	56.0	1.4	8.9	11.0	-2.0	-1.5	-0.5	7.6	5.4	27.0	-130.6
1957	111.7	51.0	16.4	4.9	-6.0	-4.0	-2.5	0.5	-2.4	0.4	37.0	14.4
1958	23.7	-92.0	33.4	7.9	6.0	8.0	2.5	-7.5	6.6	-14.6	27.0	-67.6
1959	-221.3	98.0	-55.6	8.9	-0.0	-4.0	3.5	1.5	2.6	-5.6	1.0	35.4
1960	78.7	60.0	-98.6	-4.1	-0.0	-5.0	-2.5	1.5	7.6	-3.6	-9.0	27.4
1961	12.7	-3.0	-56.6	8.9	-1.0	-8.0	1.5	4.5	17.6	13.4	12.0	-111.6
1962	-3.3	88.0	22.4	-31.1	2.0	0.0	-3.5	6.5	1.6	10.4	-58.0	-74.6
1963	82.7	-62.0	35.4	12.9	1.0	20.0	11.5	19.5	-22.4	-24.6	-137.0	-25.6
1964	-9.3	93.0	-16.6	13.9	-3.0	-1.0	-1.5	-3.5	3.6	12.4	-13.0	-128.6
1965	-58.3	9.0	41.4	6.9	9.0	8.0	-5.5	3.5	32.6	-50.6	6.0	4.4
1966	-154.3	91.0	-84.6	9.9	15.0	7.0	5.5	1.5	-5.4	16.4	14.0	-126.6
1967	-38.3	32.0	16.4	18.9	2.0	12.0	2.5	8.5	-17.4	0.4	64.0	33.4
1968	-11.3	-8.0	4.4	12.9	2.0	-5.0	-4.5	-3.5	-6.4	-1.6	-12.0	-57.6
1969	-28.3	24.0	29.4	-8.1	2.0	5.0	3.5	-2.5	-5.4	-20.6	-18.0	-58.6
1970	-84.3	26.0	22.4	13.9	1.0	3.0	0.5	3.5	-1.4	1.4	-15.0	-41.6
1971	-197.3	46.0	-53.6	1.9	2.0	2.0	3.5	-2.5	3.6	23.4	1.0	55.4
1972	28.7	-142.0	-47.6	1.9	2.0	5.0	-2.5	0.5	5.6	20.4	19.0	-19.6
1973	-5.3	26.0	40.4	7.9	-11.0	-1.0	3.5	5.5	1.6	5.4	-4.0	-23.6
1974	-15.3	-70.0	-16.6	-0.1	2.0	0.0	6.5	-0.5	-5.4	-6.6	26.0	30.4
1975	41.7	44.0	25.4	10.9	-4.0	3.0	-3.5	-2.5	8.6	-10.6	-52.0	-16.6
1976	41.7	19.0	35.4	-2.1	-0.0	-1.0	-3.5	-3.5	-11.4	13.4	-1.0	-13.6
1977	35.7	28.0	32.4	8.9	5.0	-2.0	-4.5	-1.5	12.6	-14.6	-3.0	-36.6
1978	6.7	-31.0	0.4	8.9	-1.0	27.0	3.5	-0.5	1.6	15.4	42.0	67.4
1979	59.7	-203.0	8.4	14.9	-1.0	0.0	-5.5	1.5	-14.4	-4.6	53.0	4.4
1980	-3.3	33.0	23.4	-31.1	-1.0	8.0	4.5	4.5	-4.4	-11.6	2.0	-122.6
1981	24.7	72.0	-12.6	-2.1	-3.0	-1.0	7.5	-2.5	-8.4	15.4	-3.0	-3.6
1982	-64.3	-77.0	30.4	-10.1	1.0	-1.0	2.5	-1.5	7.6	-15.6	14.0	-65.6
1983	-141.3	-26.0	-65.6	14.9	-4.0	-7.0	-4.5	-1.5	4.6	3.4	-17.0	4.4
1984	55.7	-31.0	-13.6	-2.1	-0.0	-4.0	-5.5	-2.5	-18.4	-20.6	8.0	48.4
1985	50.7	22.0	25.4	-9.1	3.0	-6.0	-2.5	3.5	12.6	-0.6	25.0	-16.6
1986	-34.3	34.0	-44.6	-10.1	1.0	-6.0	1.5	3.5	5.6	-12.6	-10.0	8.4
1987	46.7	18.0	-15.6	-13.1	-1.0	-24.0	-0.5	-2.5	0.6	18.4	15.0	49.4
1988	42.7	7.0	-10.6	-12.1	-3.0	-7.0	-1.5	-1.5	1.6	-26.6	-42.0	44.4
1989	19.7	93.0	-60.6	3.9	4.0	-4.0	-1.5	2.5	12.6	7.4	9.0	20.4
1990	77.7	17.0	-0.6	-0.1	3.0	0.0	2.5	-1.5	12.6	14.4	-36.0	57.4
1991	90.7	46.0	46.4	-20.1	-0.0	3.0	-2.5	-3.5	2.6	8.4	-64.0	53.4
1992	34.7	23.0	28.4	-30.1	-0.0	2.0	-1.5	2.5	-8.4	-3.6	46.0	61.4
1993	119.7	59.0	4.4	-21.1	-1.0	0.0	1.5	6.5	34.6	17.4	62.0	29.4
1994	34.7	22.0	16.4	2.9	-7.0	-2.0	-1.5	3.5	-2.4	-3.6	41.0	7.4
1995	40.7	53.0	-61.6	-4.1	1.0	-5.0	-0.5	-1.5	-2.4	0.4	-73.0	-81.6
mean	**-126.7**	**-110.0**	**-45.4**	**-13.9**	**-2.0**	**5.0**	**5.5**	**2.5**	**-5.6**	**-25.4**	**-67.0**	**-80.4**
sd	**67.1**	**65.3**	**33.3**	**12.2**	**3.3**	**8.7**	**3.9**	**3.3**	**9.2**	**14.2**	**30.2**	**47.4**

MONTHLY ANOMALIES 60°N, 146°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	112.0	43.1	38.3	-2.7	-2.4	-4.6	-5.7	2.2	-11.4	36.0	10.1	31.5
1947	111.0	-13.9	28.3	-2.7	-3.4	-6.6	0.3	3.2	6.6	-24.0	51.1	65.5
1948	112.0	37.1	22.3	9.3	-1.4	0.4	4.3	4.2	8.6	5.0	14.1	68.5
1949	136.0	20.1	35.3	1.3	2.6	0.4	-3.7	-0.8	-1.4	16.0	6.1	32.5
1950	116.0	-276.9	3.3	-25.7	-6.4	-5.6	-6.7	-4.8	-0.4	1.0	-100.9	-0.5
1951	-22.0	104.1	-29.7	9.3	0.6	1.4	-3.7	1.2	-5.4	-13.0	9.1	75.5
1952	-105.0	37.1	31.3	-0.7	0.6	-3.6	1.3	-1.8	-3.4	3.0	18.1	-70.5
1953	-183.0	66.1	10.3	-4.7	2.6	-4.6	-5.7	4.2	3.6	-38.0	-30.9	20.5
1954	-46.0	44.1	46.3	-11.7	-4.4	-7.6	-4.7	5.2	9.6	-14.0	26.1	3.5
1955	87.0	86.1	36.3	12.3	-6.4	4.4	-0.7	3.2	5.6	13.0	-88.9	-71.5
1956	-155.0	78.1	-9.7	5.3	-0.4	-2.6	-1.7	-0.8	11.6	15.0	54.1	-135.5
1957	125.0	68.1	5.3	4.3	-10.4	-4.6	-1.7	0.2	-3.4	-3.0	28.1	43.5
1958	25.0	-157.9	31.3	10.3	3.6	4.4	-1.7	-10.8	10.6	-14.0	31.1	-90.5
1959	-307.0	106.1	-9.7	7.3	-0.4	-5.6	2.3	1.2	4.6	-10.0	-11.9	55.5
1960	88.0	68.1	-92.7	-3.7	-0.4	-5.6	-5.7	1.2	7.6	-9.0	2.1	30.5
1961	21.0	11.1	-46.7	11.3	-1.4	-10.6	1.3	2.2	18.6	23.0	13.1	-89.5
1962	23.0	108.1	24.3	-20.7	3.6	1.4	-3.7	7.2	5.6	10.0	-51.9	-40.5
1963	121.0	-40.9	48.3	14.3	0.6	19.4	12.3	21.2	-29.4	-25.0	-114.9	-38.5
1964	10.0	114.1	-6.7	16.3	1.6	-0.6	-0.7	-2.8	8.6	15.0	-17.9	-106.5
1965	-113.0	4.1	43.3	13.3	13.6	8.4	-3.7	7.2	32.6	-28.0	-16.9	33.5
1966	-252.0	115.1	-58.7	13.3	18.6	9.4	9.3	2.2	-7.4	25.0	30.1	-113.5
1967	-22.0	55.1	23.3	21.3	2.6	14.4	3.3	7.2	-28.4	5.0	71.1	44.5
1968	25.0	-17.9	11.3	15.3	2.6	-4.6	-5.7	-2.8	-2.4	3.0	0.1	-65.5
1969	-66.0	9.1	32.3	-13.7	-0.4	3.4	3.3	-1.8	-5.4	-41.0	-26.9	-82.5
1970	-88.0	38.1	26.3	18.3	1.6	2.4	0.3	3.2	4.6	5.0	-21.9	-63.5
1971	-250.0	71.1	-45.7	-2.7	0.6	0.4	5.3	-1.8	8.6	29.0	6.1	61.5
1972	40.0	-166.9	-28.7	4.3	3.6	8.4	-1.7	0.2	10.6	24.0	27.1	-4.5
1973	30.0	22.1	42.3	8.3	-13.4	1.4	8.3	10.2	5.6	5.0	-25.9	-56.5
1974	-39.0	-60.9	-25.7	-1.7	2.6	3.4	9.3	1.2	-8.4	-10.0	27.1	50.5
1975	54.0	18.1	27.3	13.3	-1.4	4.4	-2.7	-0.8	9.6	-7.0	-40.9	-19.5
1976	50.0	31.1	40.3	-9.7	-1.4	2.4	-3.7	-2.8	-21.4	11.0	-35.9	-34.5
1977	31.0	15.1	43.3	5.3	5.6	-2.6	-5.7	-1.8	17.6	-34.0	-4.9	-65.5
1978	-21.0	-55.9	-4.7	12.3	-0.4	28.4	3.3	-0.8	4.6	13.0	42.1	79.5
1979	42.0	-311.9	11.3	16.3	-0.4	2.4	-5.7	2.2	-17.4	-17.0	50.1	44.5
1980	7.0	8.1	21.3	-40.7	-2.4	5.4	-0.7	4.2	-2.4	-23.0	2.1	-117.5
1981	7.0	84.1	-19.7	-1.7	-2.4	-2.6	4.3	-8.8	-8.4	19.0	-3.9	-3.5
1982	-126.0	-44.9	18.3	-7.7	1.6	-3.6	0.3	0.2	4.6	7.0	8.1	-81.5
1983	-156.0	-38.9	-76.7	14.3	-6.4	-6.6	-3.7	0.2	9.6	7.0	-44.9	-16.5
1984	84.0	11.1	-10.7	3.3	1.6	-4.6	-5.7	-0.8	-22.4	-20.0	10.1	54.5
1985	59.0	55.1	22.3	7.3	4.6	-6.6	-1.7	2.2	14.6	15.0	27.1	-13.5
1986	-61.0	13.1	-34.7	-6.7	-0.4	-6.6	3.3	1.2	11.6	-21.0	-28.9	8.5
1987	44.0	29.1	-23.7	-18.7	-1.4	-24.6	1.3	0.2	-4.4	16.0	19.1	70.5
1988	48.0	1.1	-23.7	-16.7	-3.4	-8.6	-3.7	-4.8	0.6	-23.0	-18.9	40.5
1989	93.0	112.1	-62.7	3.3	6.6	-6.6	-0.7	1.2	8.6	3.0	27.1	28.5
1990	99.0	69.1	-17.7	0.3	3.6	-0.6	1.3	-0.8	13.6	19.0	11.1	83.5
1991	117.0	54.1	54.3	-23.7	-2.4	1.4	-2.7	-4.8	-3.4	14.0	-74.9	58.5
1992	46.0	50.1	29.3	-16.7	2.6	1.4	-1.7	-1.8	5.6	-3.0	42.1	80.5
1993	150.0	65.1	6.3	-20.7	0.6	-0.6	4.3	3.2	34.6	17.0	78.1	27.5
1994	13.0	-88.9	22.3	5.3	-6.4	-2.6	-2.7	5.2	-3.4	-2.0	61.1	-7.5
1995	39.0	63.1	-39.7	-10.7	1.6	-5.6	3.3	0.2	-1.4	0.0	-88.9	-92.5
mean	**-163.0**	**-135.1**	**-53.3**	**-16.3**	**-2.6**	**5.6**	**5.7**	**0.8**	**-11.6**	**-33.0**	**-87.1**	**-111.5**
sd	**86.4**	**86.4**	**35.0**	**14.8**	**4.1**	**9.4**	**4.3**	**3.8**	**12.4**	**18.8**	**33.3**	**58.7**

MONTHLY ANOMALIES 57°N, 137°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	108.2	-33.2	16.8	-33.7	9.3	1.8	-5.8	1.1	-3.4	63.0	73.4	97.9
1947	159.2	-35.2	5.8	4.3	-2.7	-5.2	1.2	10.1	1.6	-63.0	35.4	27.9
1948	88.2	74.8	41.8	43.3	0.3	3.8	2.2	15.1	-0.4	-37.0	10.4	90.9
1949	124.2	50.8	29.8	-12.7	12.3	-5.2	0.2	4.1	-1.4	29.0	-33.6	82.9
1950	140.2	-200.2	-4.2	-51.7	-20.7	-1.2	-10.8	-5.9	7.6	1.0	-111.6	13.9
1951	-71.8	121.8	-5.2	24.3	11.3	16.8	3.2	8.1	-4.4	7.0	-20.6	115.9
1952	-107.8	36.8	47.8	-10.7	-0.7	0.8	7.2	7.1	3.6	12.0	0.4	-147.1
1953	-134.8	37.8	15.8	-6.7	12.3	2.8	1.2	3.1	14.6	-55.0	-3.6	24.9
1954	-1.8	78.8	61.8	22.3	7.3	-9.2	-4.8	14.1	24.6	-11.0	-31.6	43.9
1955	74.2	124.8	38.8	26.3	-13.7	1.8	8.2	-8.9	16.6	-13.0	-113.6	-113.1
1956	-196.8	96.8	0.8	20.3	-2.7	0.8	3.2	-14.9	33.6	35.0	-43.6	-30.1
1957	137.2	94.8	-8.2	25.3	1.3	1.8	3.2	7.1	13.6	32.0	23.4	33.9
1958	-51.8	-176.2	55.8	35.3	8.3	19.8	5.2	-29.9	28.6	-21.0	-25.6	-91.1
1959	-268.8	110.8	-27.2	33.3	12.3	-1.2	-3.8	6.1	17.6	20.0	-6.6	-1.1
1960	84.2	86.8	-78.2	16.3	6.3	-1.2	-11.8	6.1	6.6	-10.0	6.4	7.9
1961	-52.8	-32.2	-21.2	37.3	3.3	-29.2	1.2	0.1	35.6	59.0	32.4	49.9
1962	54.2	133.8	40.8	-17.7	14.3	1.8	1.2	9.1	-0.4	-10.0	-63.6	4.9
1963	159.2	-51.2	62.8	40.3	-1.7	9.8	10.2	18.1	-53.4	-84.0	-26.6	-87.1
1964	3.2	92.8	36.8	34.3	14.3	2.8	-0.8	2.1	30.6	10.0	-12.6	-61.1
1965	-127.8	69.8	45.8	24.3	16.3	-7.2	0.2	17.1	48.6	-92.0	-4.6	73.9
1966	-260.8	130.8	-29.2	43.3	2.3	2.8	32.2	-6.9	-51.4	16.0	19.4	-94.1
1967	-60.8	25.8	45.8	46.3	13.3	21.8	1.2	-0.9	-42.4	42.0	105.4	25.9
1968	98.2	-134.2	-34.2	0.3	14.3	-1.2	-2.8	0.1	-28.4	-3.0	-84.6	-97.1
1969	-62.8	-13.2	21.8	-36.7	3.3	6.8	-4.8	2.1	1.6	-79.0	-37.6	-181.1
1970	-11.8	28.8	6.8	33.3	-10.7	-2.2	-10.8	-6.9	21.6	50.0	-15.6	-2.1
1971	-52.8	80.8	7.8	-6.7	-13.7	1.8	9.2	-6.9	19.6	48.0	22.4	85.9
1972	90.2	-95.2	-6.2	16.3	10.3	1.8	2.2	-9.9	34.6	56.0	26.4	28.9
1973	84.2	40.8	42.8	10.3	-32.7	-2.2	1.2	10.1	14.6	-2.0	28.4	-53.1
1974	59.2	9.8	13.8	2.3	11.3	-0.2	7.2	13.1	7.6	-61.0	-12.6	48.9
1975	84.2	-76.2	30.8	25.3	-2.7	2.8	-3.8	5.1	1.6	22.0	20.4	1.9
1976	-12.8	112.8	33.8	-11.7	-19.7	7.8	-4.8	0.1	-45.4	26.0	-111.6	27.9
1977	41.2	-56.2	46.8	7.3	18.3	1.8	-1.8	9.1	29.6	-87.0	66.4	-6.1
1978	-95.8	-95.2	-24.2	35.3	-8.7	24.8	2.2	4.1	-9.4	-11.0	65.4	95.9
1979	7.2	-149.2	22.8	43.3	-8.7	0.8	-12.8	9.1	-24.4	-60.0	19.4	79.9
1980	-23.8	-44.2	17.8	-129.7	11.3	12.8	-0.8	11.1	13.6	-88.0	-41.6	-84.1
1981	-146.8	118.8	-32.2	31.3	-0.7	0.8	10.2	-16.9	-26.4	44.0	-26.6	-19.1
1982	-127.8	-2.2	35.8	-30.7	-2.7	4.8	2.2	8.1	16.6	20.0	21.4	-69.1
1983	-135.8	-67.2	-39.2	35.3	1.3	0.8	0.2	-19.9	17.6	-1.0	-36.6	-32.1
1984	71.2	-13.2	-40.2	-2.7	9.3	-2.2	-18.8	0.1	-40.4	4.0	10.4	44.9
1985	-7.8	100.8	1.8	-4.7	8.3	-12.2	9.2	8.1	36.6	43.0	11.4	-71.1
1986	-159.8	-22.2	-30.2	-2.7	-7.7	-3.2	4.2	-2.9	35.6	-10.0	-8.6	-59.1
1987	-8.8	11.8	-18.2	-95.7	-22.7	-56.2	11.2	8.1	-37.4	-21.0	-62.6	64.9
1988	38.2	-5.2	-45.2	2.3	-13.7	-19.2	-4.8	-13.9	0.6	-3.0	-15.6	34.9
1989	119.2	105.8	-60.2	20.3	15.3	0.8	4.2	9.1	24.6	7.0	54.4	-1.1
1990	121.2	91.8	-64.2	29.3	19.3	1.8	2.2	1.1	-3.4	33.0	57.4	130.9
1991	94.2	46.8	65.8	-16.7	8.3	6.8	0.2	-19.9	-19.4	31.0	-55.6	4.9
1992	-46.8	-3.2	28.8	14.3	9.3	3.8	2.2	-4.9	20.6	-6.0	6.4	73.9
1993	135.2	45.8	-17.2	-13.7	14.3	3.8	11.2	9.1	48.6	30.0	88.4	12.9
1994	-14.8	-38.2	-7.2	17.3	-10.7	-0.2	1.2	10.1	-25.4	-23.0	75.4	-28.1
1995	-23.8	81.8	6.8	-16.7	11.3	-3.2	8.2	6.1	-8.4	10.0	-98.6	-141.1
mean	**-188.2**	**-162.8**	**-68.8**	**-42.3**	**-15.3**	**-1.8**	**-1.2**	**-8.1**	**-35.6**	**-84.0**	**-125.4**	**-159.9**
sd	**87.6**	**77.3**	**36.8**	**40.7**	**13.9**	**14.7**	**7.2**	**9.9**	**26.3**	**44.1**	**50.9**	**70.5**

MONTHLY ANOMALIES 54°N, 134°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	43.5	-64.4	-2.5	-29.4	16.2	2.6	-9.6	2.6	-19.0	62.2	66.1	55.7
1947	80.5	-19.4	12.5	-1.4	8.2	-6.4	1.4	20.6	10.0	-64.8	12.1	15.7
1948	13.5	85.6	35.5	46.6	1.2	11.6	2.4	16.6	-1.0	-29.8	-5.9	53.7
1949	61.5	79.6	27.5	-65.4	17.2	-0.4	-1.6	-1.4	7.0	2.2	-88.9	81.7
1950	109.5	-105.4	6.5	-35.4	-24.8	-0.4	-16.6	-13.4	-1.0	10.2	-0.9	-12.3
1951	-15.5	86.6	21.5	26.6	15.2	30.6	6.4	7.6	2.0	24.2	-14.9	79.7
1952	25.5	11.6	40.5	-23.4	1.2	0.6	13.4	5.6	-9.0	8.2	-3.9	-140.3
1953	-38.5	-11.4	-3.5	1.6	15.2	5.6	0.4	0.6	9.0	-95.8	-6.9	-45.3
1954	52.5	42.6	46.5	29.6	8.2	-24.4	-6.6	21.6	21.0	-14.8	-112.9	11.7
1955	20.5	81.6	35.5	34.6	-1.8	2.6	10.4	-9.4	17.0	-21.8	-59.9	-16.3
1956	-132.5	71.6	9.5	24.6	9.2	-3.4	3.4	-12.4	30.0	24.2	-75.9	0.7
1957	92.5	75.6	-2.5	30.6	10.2	-6.4	3.4	2.6	16.0	42.2	-16.9	15.7
1958	-92.5	-96.4	48.5	36.6	14.2	33.6	19.4	-26.4	19.0	-19.8	-32.9	-88.3
1959	-73.5	75.6	-46.5	32.6	16.2	-6.4	-4.6	5.6	13.0	31.2	-30.9	-68.3
1960	36.5	60.6	-36.5	8.6	6.2	-1.4	-10.6	8.6	11.0	-25.8	-17.9	-20.3
1961	-103.5	-64.4	-16.5	33.6	10.2	-36.4	6.4	-0.4	32.0	24.2	35.1	46.7
1962	59.5	95.6	37.5	-34.4	20.2	2.6	3.4	5.6	4.0	1.2	-79.9	-23.3
1963	89.5	-68.4	52.5	39.6	6.2	15.6	14.4	18.6	-84.0	-131.8	-0.9	-90.3
1964	0.5	40.6	39.5	38.6	24.2	2.6	-2.6	-3.4	24.0	-17.8	14.1	35.7
1965	-29.5	42.6	44.5	34.6	23.2	-1.4	1.4	17.6	56.0	-108.8	59.1	47.7
1966	-29.5	85.6	-13.5	46.6	-6.8	-1.4	43.4	0.6	-62.0	8.2	70.1	5.7
1967	30.5	-15.4	56.5	67.6	7.2	38.6	-0.6	-7.4	-68.0	12.2	64.1	47.7
1968	100.5	-103.4	-34.5	-3.4	18.2	-6.4	-2.6	0.6	-21.0	6.2	-99.9	30.7
1969	73.5	30.6	19.5	-49.4	7.2	10.6	-9.6	-10.4	3.0	-51.8	-63.9	-205.3
1970	18.5	-12.4	1.5	29.6	-29.8	-1.4	-5.6	-3.4	14.0	49.2	29.1	37.7
1971	60.5	18.6	-6.5	-3.4	9.2	2.6	20.4	-16.4	17.0	47.2	21.1	78.7
1972	84.5	13.6	12.5	21.6	16.2	-0.4	4.4	-9.4	37.0	57.2	5.1	60.7
1973	42.5	34.6	29.5	15.6	-35.8	-20.4	0.4	11.6	10.0	-5.8	78.1	-53.3
1974	92.5	-10.4	36.5	10.6	5.2	-5.4	4.4	19.6	12.0	-68.8	-27.9	-41.3
1975	31.5	-25.4	33.5	31.6	1.2	5.6	-5.6	-1.4	9.0	19.2	25.1	0.7
1976	-58.5	78.6	6.5	-16.4	-36.8	7.6	-24.6	-4.4	-31.0	29.2	-79.9	1.7
1977	0.5	-139.4	36.5	7.6	18.2	-6.4	-7.6	9.6	27.0	-94.8	47.1	49.7
1978	-44.5	-66.4	-4.5	33.6	-5.8	28.6	8.4	-6.4	-18.0	-24.8	62.1	60.7
1979	37.5	48.6	19.5	42.6	-7.8	0.6	-14.6	9.6	-28.0	-53.8	-20.9	17.7
1980	49.5	-34.4	20.5	-151.4	16.2	18.6	-5.6	22.6	18.0	-122.8	-60.9	28.7
1981	-269.5	75.6	-58.5	27.6	-5.8	-9.4	26.4	-4.4	-52.0	50.2	-52.9	9.7
1982	58.5	71.6	40.5	-2.4	6.2	13.6	4.4	6.6	18.0	21.2	50.1	-40.3
1983	-155.5	-79.4	-10.5	37.6	8.2	-2.4	-2.6	-19.4	19.0	8.2	17.1	23.7
1984	6.5	-56.4	-69.5	-18.4	-1.8	-7.4	-11.6	-7.4	-36.0	21.2	22.1	62.7
1985	-87.5	51.6	11.5	-8.4	15.2	-11.4	8.4	4.6	37.0	36.2	73.1	-110.3
1986	-204.5	-10.4	-85.5	-11.4	-15.8	-0.4	5.4	1.6	33.0	-16.8	32.1	-110.3
1987	-36.5	5.6	20.5	-120.4	-26.8	-43.4	15.4	8.6	-16.0	-3.8	-80.9	12.7
1988	22.5	-19.4	-57.5	14.6	-16.8	-25.4	-12.6	-2.4	0.0	-0.8	-37.9	36.7
1989	22.5	102.6	-17.5	30.6	19.2	3.6	1.4	9.6	26.0	15.2	9.1	-28.3
1990	70.5	66.6	-49.5	31.6	22.2	2.6	6.4	-2.4	3.0	24.2	50.1	80.7
1991	53.5	-26.4	49.5	-16.4	14.2	6.6	-1.6	-8.4	-13.0	48.2	-59.9	-51.3
1992	-118.5	-9.4	32.5	14.6	13.2	5.6	12.4	0.6	0.0	0.2	-8.9	72.7
1993	77.5	20.6	-37.5	-41.4	16.2	2.6	23.4	18.6	50.0	21.2	50.1	-81.3
1994	14.5	67.6	-18.5	6.6	-9.8	-0.4	3.4	9.6	-29.0	-7.8	60.1	-11.3
1995	-61.5	66.6	25.5	-2.4	17.2	-5.4	14.4	3.6	-1.0	-7.8	-6.9	-54.3
mean	**-100.5**	**-96.6**	**-46.5**	**-38.6**	**-18.2**	**-2.6**	**-1.4**	**-2.6**	**-25.0**	**-68.2**	**-83.1**	**-87.7**
sd	**93.1**	**60.3**	**39.2**	**48.1**	**17.9**	**16.4**	**11.2**	**10.4**	**27.9**	**46.8**	**54.1**	**67.9**

MONTHLY ANOMALIES 51°N, 131°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	13.3	-37.8	21.7	-3.8	3.8	-12.1	-12.8	-2.6	-9.8	39.6	32.6	57.1
1947	73.3	-1.8	17.7	7.2	4.8	-9.1	-14.8	29.4	7.2	-42.4	39.6	21.1
1948	18.3	61.2	26.7	14.2	-4.2	18.9	-2.8	9.4	2.2	7.6	61.6	49.1
1949	61.3	56.2	13.7	-44.8	2.8	13.9	-2.8	-18.6	-2.8	13.6	-108.4	47.1
1950	61.3	-62.8	8.7	-33.8	6.8	-10.1	-10.8	-25.6	-6.8	-6.4	5.6	-47.9
1951	3.3	51.2	22.7	14.2	3.8	52.9	-2.8	4.4	-2.8	2.6	-29.4	39.1
1952	22.3	33.2	45.7	-45.8	-0.2	-4.1	9.2	5.4	-3.8	-5.4	-6.4	-129.9
1953	-8.7	35.2	3.7	-9.8	-3.2	-7.1	-9.8	-13.6	4.2	-59.4	-48.4	26.1
1954	47.3	19.2	27.7	19.2	-2.2	-29.1	-17.8	16.4	2.2	-43.4	-142.4	6.1
1955	26.3	79.2	39.7	17.2	15.8	-3.1	2.2	-2.6	3.2	-9.4	-57.4	-31.9
1956	-154.7	58.2	6.7	16.2	7.8	-13.1	-3.8	-8.6	6.2	23.6	1.6	-0.9
1957	47.3	58.2	-14.3	14.2	0.8	-13.1	0.2	-12.6	-0.8	12.6	-10.4	-2.9
1958	-176.7	-149.8	23.7	11.2	4.8	35.9	57.2	-14.6	4.2	-15.4	8.6	-105.9
1959	-49.7	48.2	-2.3	21.2	8.8	-18.1	-4.8	13.4	-1.8	9.6	-3.4	-38.9
1960	-3.7	34.2	-22.3	-19.8	-6.2	9.9	-14.8	19.4	4.2	-17.4	-2.4	-17.9
1961	-133.7	-24.8	-29.3	39.2	-2.2	-22.1	9.2	-5.6	26.2	41.6	15.6	47.1
1962	52.3	55.2	24.7	-26.8	25.8	-7.1	10.2	0.4	2.2	4.6	-18.4	-68.9
1963	69.3	-105.8	40.7	15.2	-1.2	35.9	12.2	5.4	-69.8	-125.4	-18.4	-78.9
1964	17.3	88.2	47.7	58.2	21.8	-10.1	-13.8	-5.6	18.2	-32.4	21.6	18.1
1965	22.3	73.2	27.7	9.2	35.8	-7.1	-4.8	1.4	69.2	-84.4	16.6	32.1
1966	-7.7	50.2	-61.3	29.2	7.8	-22.1	33.2	-0.6	-40.8	11.6	35.6	-33.9
1967	38.3	9.2	32.7	42.2	5.8	62.9	-5.8	-13.6	-68.8	-22.4	34.6	27.1
1968	62.3	-76.8	-41.3	25.2	4.8	-11.1	-3.8	-1.6	5.2	-26.4	-72.4	24.1
1969	54.3	14.2	16.7	-58.8	0.8	18.9	9.2	-6.6	-8.8	-25.4	-33.4	-180.9
1970	11.3	-24.8	10.7	48.2	-9.2	-2.1	-4.8	-6.6	9.2	21.6	13.6	27.1
1971	59.3	36.2	-15.3	-12.8	13.8	-10.1	14.2	-29.6	10.2	26.6	8.6	49.1
1972	63.3	0.2	0.7	15.2	4.8	-6.1	3.2	-10.6	38.2	34.6	-45.4	37.1
1973	-13.7	9.2	22.7	17.2	-17.2	-27.1	-8.8	25.4	-5.8	6.6	47.6	-36.9
1974	66.3	22.2	19.7	3.2	-0.2	-5.1	-5.8	29.4	3.2	-9.4	3.6	-17.9
1975	52.3	-12.8	27.7	29.2	1.8	25.9	-7.8	-7.6	7.2	1.6	10.6	14.1
1976	-19.7	60.2	9.7	-20.8	-18.2	7.9	-36.8	-10.6	-11.8	19.6	-22.4	-3.9
1977	21.3	-92.8	60.7	6.2	11.8	-2.1	-3.8	12.4	16.2	-53.4	8.6	16.1
1978	-65.7	-69.8	4.7	10.2	8.8	40.9	35.2	-16.6	-31.8	12.6	43.6	65.1
1979	29.3	37.2	20.7	20.2	-0.2	2.9	-13.8	-0.6	-21.8	-27.4	-41.4	-12.9
1980	49.3	-50.8	40.7	-102.8	9.8	11.9	5.2	55.4	17.2	-55.4	-31.4	4.1
1981	-247.7	50.2	-51.3	8.2	-13.2	-26.1	54.2	-11.6	-42.8	24.6	-40.4	-0.9
1982	66.3	46.2	25.7	8.2	11.8	12.9	-5.8	-3.6	9.2	18.6	34.6	-6.9
1983	-129.7	-96.8	-17.3	12.2	7.8	-18.1	-13.8	-15.6	7.2	3.6	-3.4	-2.9
1984	3.3	-52.8	-58.3	-37.8	-22.2	-15.1	-6.8	-16.6	-17.8	-6.4	4.6	46.1
1985	-60.7	63.2	20.7	8.2	5.8	-10.1	-0.8	-1.6	25.2	23.6	45.6	-63.9
1986	-151.7	8.2	-98.3	2.2	-18.2	-10.1	6.2	16.4	27.2	-28.4	37.6	-69.9
1987	-27.7	16.2	12.7	-57.8	-1.2	-12.1	8.2	25.4	0.2	20.6	-26.4	13.1
1988	-3.7	29.2	-8.3	10.2	-23.2	-21.1	-10.8	3.4	6.2	1.6	-18.4	37.1
1989	60.3	48.2	-24.3	11.2	11.8	-4.1	-13.8	9.4	18.2	3.6	25.6	-14.9
1990	53.3	61.2	-44.3	8.2	6.8	-11.1	17.2	-14.6	5.2	6.6	57.6	69.1
1991	29.3	-33.8	32.7	4.2	17.8	7.9	-9.8	-9.6	3.2	27.6	-42.4	-16.9
1992	-73.7	-47.8	22.7	-6.8	9.8	0.9	39.2	-3.6	11.2	-99.4	1.6	42.1
1993	36.3	-17.8	-26.3	-84.8	-7.2	-8.1	32.2	29.4	57.2	16.6	47.6	-70.9
1994	9.3	50.2	9.7	-3.8	-3.2	-11.1	11.2	-5.6	-3.8	19.6	84.6	-18.9
1995	-142.7	45.2	1.7	-1.8	19.8	-12.1	29.2	-4.6	-3.8	12.6	-3.4	-61.9
mean	**-61.3**	**-59.2**	**-25.7**	**-12.2**	**-2.8**	**12.1**	**13.8**	**14.6**	**-0.2**	**-25.6**	**-45.6**	**-44.1**
sd	**78.8**	**49.6**	**36.5**	**33.4**	**12.2**	**20.7**	**17.5**	**18.7**	**23.1**	**25.1**	**35.7**	**51.3**

MONTHLY ANOMALIES 48°N, 125°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	29.9	-0.5	1.9	-14.4	-8.2	-36.7	-38.0	-7.0	-6.4	19.8	26.6	62.0
1947	63.9	42.5	11.9	-1.4	0.8	-29.7	-46.0	-6.0	-1.4	-74.2	74.6	7.0
1948	25.9	72.5	12.9	-8.4	-23.2	-10.7	-31.0	-23.0	-7.4	7.8	27.6	24.0
1949	90.9	50.5	7.9	-16.4	-20.2	-12.7	-27.0	-35.0	-8.4	19.8	-143.4	65.0
1950	75.9	-118.5	-19.1	-25.4	-2.2	-27.7	-33.0	-33.0	-5.4	-52.2	-15.4	-55.0
1951	24.9	34.5	12.9	6.6	-18.2	15.3	-33.0	3.0	-7.4	-8.2	-89.4	67.0
1952	-69.1	47.5	13.9	-36.4	-18.2	-25.7	-13.0	-20.0	-6.4	8.8	-28.4	-208.0
1953	-15.1	69.5	-9.1	-10.4	-26.2	-31.7	-35.0	-34.0	-5.4	-29.2	-114.4	53.0
1954	47.9	-2.5	17.9	1.6	-16.2	-37.7	-39.0	-18.0	-5.4	-63.2	-57.4	-81.0
1955	43.9	81.5	22.9	-6.4	16.8	-5.7	-25.0	5.0	5.6	-10.2	7.6	-11.0
1956	-77.1	60.5	-7.1	26.6	11.8	-28.7	5.0	-3.0	-3.4	7.8	29.6	14.0
1957	35.9	64.5	-16.1	6.6	-11.2	-13.7	-16.0	-25.0	-5.4	8.8	40.6	-29.0
1958	-147.1	-65.5	10.9	-4.4	5.8	8.3	45.0	2.0	-4.4	-9.2	40.6	-72.0
1959	6.9	52.5	-4.1	8.6	-1.2	-25.7	-3.0	9.0	-5.4	17.8	41.6	-24.0
1960	-34.1	50.5	-8.1	-37.4	-31.2	3.3	-17.0	-13.0	1.6	-34.2	-9.4	-26.0
1961	-161.1	-23.5	-70.1	12.6	-19.2	-30.7	-13.0	-21.0	17.6	17.8	9.6	40.0
1962	50.9	62.5	14.9	-17.4	6.8	-23.7	9.0	-27.0	-3.4	-13.2	-45.4	-21.0
1963	93.9	-18.5	19.9	-4.4	-17.2	7.3	-21.0	-15.0	-14.4	-84.2	1.6	-15.0
1964	13.9	93.5	25.9	37.6	14.8	-13.7	-27.0	-19.0	1.6	-6.2	30.6	0.0
1965	28.9	78.5	16.9	-1.4	33.8	22.3	17.0	-5.0	30.6	-55.2	-41.4	18.0
1966	-8.1	57.5	-49.1	30.6	31.8	-24.7	10.0	15.0	-5.4	12.8	31.6	-81.0
1967	25.9	55.5	8.9	8.6	30.8	49.3	25.0	24.0	-2.4	-75.2	43.6	34.0
1968	-14.1	-92.5	-34.1	28.6	-2.2	-5.7	8.0	-16.0	2.6	-54.2	-56.4	-2.0
1969	31.9	-33.5	14.9	-42.4	-11.2	21.3	17.0	-16.0	-8.4	-5.2	-23.4	-111.0
1970	1.9	9.5	18.9	21.6	-2.2	-2.7	-2.0	2.0	-4.4	-3.2	12.6	-21.0
1971	66.9	64.5	-34.1	-15.4	21.8	-29.7	-6.0	-19.0	-4.4	14.8	19.6	65.0
1972	84.9	-0.5	-11.1	-6.4	-9.2	-8.7	-30.0	-7.0	2.6	26.8	-8.4	19.0
1973	-58.1	26.5	13.9	21.6	-11.2	-24.7	-13.0	20.0	-5.4	10.8	49.6	-19.0
1974	61.9	36.5	-10.1	-4.4	-8.2	2.3	-26.0	3.0	-1.4	20.8	25.6	5.0
1975	68.9	-7.5	16.9	15.6	-5.2	23.3	0.0	-20.0	4.6	-38.2	-28.4	37.0
1976	29.9	47.5	-3.1	-4.4	-14.2	-4.7	-40.0	-25.0	-4.4	15.8	38.6	32.0
1977	47.9	-16.5	31.9	-3.4	-11.2	3.3	-3.0	-10.0	-3.4	-8.2	10.6	22.0
1978	-36.1	-28.5	16.9	-4.4	-3.2	-7.7	13.0	-31.0	-21.4	21.8	59.6	75.0
1979	19.9	0.5	18.9	8.6	3.8	47.3	-20.0	1.0	-7.4	5.8	-111.4	-55.0
1980	24.9	-135.5	23.9	-16.4	20.8	-3.7	18.0	34.0	-0.4	-17.2	-69.4	-28.0
1981	-158.1	6.5	4.9	-2.4	-12.2	-30.7	35.0	-10.0	-11.4	11.8	-47.4	-17.0
1982	68.9	9.5	19.9	-1.4	38.8	38.3	-9.0	4.0	1.6	-22.2	19.6	-11.0
1983	-72.1	-114.5	-42.1	3.6	24.8	-11.7	-27.0	-8.0	6.6	18.8	-51.4	-41.0
1984	50.9	-60.5	-8.1	-15.4	-21.2	-2.7	27.0	-7.0	-5.4	0.8	-45.4	57.0
1985	-14.1	62.5	11.9	5.6	-0.2	13.3	34.0	5.0	6.6	0.8	56.6	-70.0
1986	-234.1	13.5	-31.1	4.6	-18.2	-9.7	12.0	50.0	3.6	4.8	50.6	-109.0
1987	-110.1	16.5	-15.1	-7.4	1.8	1.3	-6.0	34.0	3.6	20.8	-26.4	-30.0
1988	-59.1	66.5	8.9	-0.4	-26.2	-23.7	9.0	21.0	9.6	16.8	-14.4	41.0
1989	65.9	15.5	-51.1	-1.4	13.8	-4.7	-14.0	14.0	15.6	9.8	55.6	42.0
1990	57.9	57.5	8.9	5.6	-6.2	-23.7	16.0	-19.0	10.6	-0.2	46.6	69.0
1991	47.9	0.5	19.9	0.6	6.8	-4.7	-18.0	-25.0	11.6	22.8	-6.4	15.0
1992	-78.1	-42.5	20.9	-9.4	9.8	6.3	7.0	-6.0	2.6	8.8	22.6	39.0
1993	-9.1	0.5	-18.1	-56.4	-22.2	-12.7	-7.0	-8.0	14.6	19.8	62.6	-14.0
1994	54.9	27.5	5.9	-2.4	-13.2	-24.7	13.0	-24.0	-2.4	14.8	41.6	-68.0
1995	-221.1	51.5	-37.1	-3.4	8.8	-26.7	-8.0	-22.0	-5.4	6.8	2.6	-95.0
mean	**-92.9**	**-82.5**	**-20.9**	**1.4**	**20.2**	**35.7**	**45.0**	**34.0**	**5.4**	**-21.8**	**-75.6**	**-85.0**
sd	**78.8**	**54.0**	**23.0**	**14.4**	**16.7**	**21.8**	**20.6**	**21.1**	**8.1**	**25.0**	**46.5**	**51.1**

MONTHLY ANOMALIES 45°N, 125°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	21.4	-27.0	7.0	-11.7	-2.2	-47.1	-47.4	8.4	-14.0	11.8	41.1	56.1
1947	54.4	42.0	12.0	-6.7	7.8	-41.1	-68.4	20.4	3.0	-71.2	68.1	7.1
1948	53.4	59.0	12.0	-25.7	-29.2	-6.1	-42.4	-28.6	-13.0	6.8	24.1	38.1
1949	84.4	11.0	15.0	-9.7	-22.2	7.9	-10.4	-44.6	-8.0	12.8	-146.9	25.1
1950	67.4	-94.0	-30.0	-10.7	19.8	-17.1	-1.4	-36.6	-1.0	-44.2	-6.9	-92.9
1951	18.4	33.0	17.0	27.3	-13.2	55.9	-12.4	46.4	-9.0	-6.2	-72.9	56.1
1952	-51.6	42.0	20.0	-8.7	-11.2	-18.1	9.6	-1.6	0.0	8.8	1.1	-197.9
1953	-151.6	71.0	2.0	-9.7	-27.2	-25.1	-5.4	-41.6	3.0	0.8	-81.9	30.1
1954	26.4	-29.0	21.0	-2.7	-1.2	-45.1	-35.4	-14.6	-8.0	-37.2	-75.9	-88.9
1955	39.4	70.0	20.0	-6.7	37.8	10.9	-4.4	46.4	22.0	-1.2	21.1	-3.9
1956	-66.6	57.0	-3.0	50.3	27.8	-30.1	19.6	10.4	-10.0	4.8	45.1	15.1
1957	67.4	60.0	-9.0	6.3	-19.2	-14.1	-6.4	-16.6	-10.0	8.8	50.1	-49.9
1958	-187.6	-90.0	15.0	-7.7	8.8	-0.1	51.6	11.4	-8.0	1.8	39.1	-44.9
1959	-1.6	56.0	10.0	14.3	3.8	-19.1	29.6	38.4	-12.0	9.8	51.1	19.1
1960	-19.6	45.0	3.0	-31.7	-40.2	15.9	-16.4	-10.6	11.0	-29.2	-21.9	-11.9
1961	-169.6	-62.0	-72.0	4.3	-28.2	-28.1	-21.4	-18.6	27.0	11.8	11.1	36.1
1962	62.4	52.0	13.0	-13.7	12.8	-20.1	34.6	-30.6	-4.0	-9.2	-47.9	-23.9
1963	96.4	-49.0	16.0	-15.7	-21.2	22.9	-34.4	-16.6	-20.0	-51.2	10.1	-16.9
1964	-34.6	85.0	21.0	50.3	15.8	-17.1	-21.4	-11.6	17.0	-11.2	17.1	-19.9
1965	-5.6	69.0	29.0	-1.7	54.8	53.9	26.6	-3.6	60.0	-23.2	-56.9	15.1
1966	-22.6	45.0	-31.0	36.3	71.8	-29.1	7.6	58.4	-9.0	8.8	22.1	-83.9
1967	-12.6	63.0	4.0	4.3	58.8	85.9	61.6	41.4	0.0	-64.2	51.1	38.1
1968	-18.6	-74.0	-28.0	40.3	3.8	9.9	31.6	-30.6	3.0	-29.2	-55.9	-19.9
1969	38.4	-21.0	17.0	-27.7	-16.2	11.9	33.6	-5.6	-9.0	-4.2	12.1	-81.9
1970	-14.6	1.0	20.0	18.3	3.8	-3.1	-1.4	21.4	-4.0	2.8	11.1	-30.9
1971	51.4	56.0	-30.0	-8.7	36.8	-36.1	-7.4	-27.6	-7.0	10.8	25.1	48.1
1972	64.4	-31.0	-6.0	-7.7	4.8	5.9	-20.4	4.4	4.0	43.8	1.1	7.1
1973	-27.6	29.0	18.0	36.3	-4.2	-22.1	3.6	51.4	-12.0	6.8	19.1	-53.9
1974	47.4	21.0	-18.0	-4.7	-3.2	30.9	-36.4	20.4	1.0	15.8	19.1	0.1
1975	50.4	-5.0	18.0	28.3	-3.2	48.9	-4.4	-11.6	23.0	-38.2	-13.9	31.1
1976	42.4	42.0	9.0	-6.7	-8.2	6.9	-49.4	-34.6	-1.0	9.8	34.1	28.1
1977	43.4	-37.0	27.0	-5.7	-20.2	21.9	0.6	-10.6	-8.0	2.8	-1.9	-24.9
1978	-61.6	-16.0	18.0	-7.7	-1.2	-15.1	19.6	-38.6	-20.0	14.8	61.1	71.1
1979	16.4	-31.0	19.0	-0.7	4.8	36.9	-42.4	-20.6	-15.0	1.8	-61.9	-81.9
1980	64.4	-83.0	20.0	-13.7	22.8	-17.1	30.6	44.4	-6.0	-9.2	-55.9	-37.9
1981	-122.6	4.0	5.0	-6.7	-17.2	-41.1	34.6	-11.6	-16.0	4.8	-37.9	-30.9
1982	52.4	0.0	14.0	-8.7	49.8	9.9	-21.4	-13.6	-3.0	-30.2	13.1	-22.9
1983	-118.6	-144.0	-76.0	-3.7	5.8	-30.1	-54.4	-16.6	10.0	8.8	-100.9	23.1
1984	54.4	-59.0	-14.0	-14.7	-31.2	-12.1	48.6	-14.6	-12.0	-11.2	-72.9	61.1
1985	20.4	70.0	14.0	-1.7	-14.2	2.9	10.6	-5.6	-3.0	0.8	62.1	-46.9
1986	-217.6	17.0	-17.0	6.3	-28.2	-24.1	-6.4	32.4	-5.0	2.8	49.1	-73.9
1987	-63.6	37.0	-19.0	-7.7	-6.2	-6.1	-37.4	47.4	2.0	13.8	-24.9	5.1
1988	-41.6	66.0	10.0	-6.7	-35.2	-35.1	-6.4	19.4	2.0	9.8	-26.9	55.1
1989	67.4	57.0	-40.0	-5.7	-3.2	-6.1	-24.4	10.4	13.0	8.8	53.1	53.1
1990	36.4	46.0	15.0	4.3	-20.2	-34.1	30.6	-26.6	19.0	4.8	27.1	66.1
1991	49.4	-9.0	20.0	0.3	21.8	9.9	7.6	-25.6	43.0	23.8	15.1	19.1
1992	-86.6	-56.0	23.0	-17.7	36.8	11.9	8.6	14.4	-2.0	5.8	23.1	42.1
1993	28.4	22.0	-16.0	-70.7	-33.2	-25.1	-7.4	13.4	26.0	10.8	62.1	-21.9
1994	39.4	22.0	12.0	-2.7	-7.2	-21.1	45.6	-14.6	2.0	10.8	29.1	-73.9
1995	-208.6	60.0	-18.0	-4.7	39.8	-18.1	-9.4	-19.6	-10.0	9.8	-12.9	-85.9
mean	**-83.4**	**-72.0**	**-19.0**	**6.7**	**29.2**	**49.1**	**72.4**	**51.6**	**15.0**	**-9.8**	**-65.1**	**-75.1**
sd	**71.6**	**52.9**	**24.7**	**15.7**	**23.4**	**29.7**	**31.3**	**27.6**	**13.7**	**21.7**	**44.7**	**47.6**

MONTHLY ANOMALIES 42°N, 125°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	47.4	-16.3	9.4	-31.4	-39.0	-85.5	-72.7	3.3	-24.1	12.0	31.0	44.4
1947	62.4	33.7	-0.6	-23.4	-30.0	-75.5	-108.7	36.3	5.9	-28.0	50.0	33.4
1948	56.4	61.7	6.4	-45.4	-73.0	-41.5	-60.7	-35.7	-23.1	-6.0	30.0	46.4
1949	80.4	6.7	3.4	-29.4	-58.0	1.5	-12.7	-63.7	-14.1	25.0	-105.0	44.4
1950	49.4	-18.3	-22.6	-24.4	41.0	-38.5	13.3	-54.7	-5.1	-37.0	4.0	-82.6
1951	27.4	29.7	27.4	18.6	-41.0	36.5	-21.7	54.3	-25.1	-9.0	-51.0	39.4
1952	-11.6	37.7	38.4	-25.4	-35.0	-40.5	-18.7	-14.7	-5.1	-8.0	12.0	-128.6
1953	-140.6	66.7	7.4	-30.4	-63.0	-21.5	-10.7	-68.7	-5.1	-6.0	-58.0	46.4
1954	11.4	-8.3	7.4	-21.4	-17.0	-80.5	-51.7	-43.7	-19.1	-23.0	-75.0	-44.6
1955	44.4	55.7	21.4	-7.4	81.0	4.5	7.3	77.3	31.9	-4.0	19.0	-19.6
1956	-73.6	50.7	10.4	57.6	-7.0	-32.5	-3.7	5.3	-28.1	2.0	27.0	34.4
1957	61.4	37.7	-9.6	-1.4	-72.0	-30.5	-0.7	-6.7	-35.1	-7.0	31.0	-30.6
1958	-194.6	-142.3	3.4	-26.4	-39.0	-58.5	-14.7	-6.7	-8.1	-8.0	27.0	-19.6
1959	14.4	46.7	20.4	35.6	-6.0	-19.5	32.3	61.3	-15.1	7.0	33.0	35.4
1960	-2.6	41.7	2.4	-35.4	-83.0	25.5	-53.7	-6.7	12.9	-14.0	-12.0	-11.6
1961	-130.6	-4.3	-32.6	-10.4	-71.0	-57.5	-66.7	-43.7	37.9	6.0	7.0	52.4
1962	60.4	22.7	5.4	-22.4	-16.0	-28.5	38.3	-47.7	-8.1	-10.0	-2.0	-23.6
1963	80.4	-49.3	6.4	-36.4	-53.0	41.5	-47.7	-19.7	-39.1	-22.0	10.0	1.4
1964	-8.6	86.7	26.4	111.6	1.0	-43.5	-18.7	3.3	46.9	-14.0	-1.0	-31.6
1965	-15.6	58.7	32.4	-10.4	91.0	79.5	21.3	-18.7	60.9	-9.0	-65.0	30.4
1966	16.4	41.7	-7.6	64.6	149.0	-21.5	-1.7	86.3	-14.1	10.0	11.0	-29.6
1967	8.4	57.7	7.4	-5.4	90.0	79.5	89.3	46.3	2.9	-12.0	34.0	50.4
1968	7.4	-52.3	-12.6	108.6	-9.0	44.5	56.3	-60.7	7.9	-9.0	-26.0	-41.6
1969	38.4	-31.3	6.4	-29.4	-33.0	-10.5	98.3	95.3	15.9	-9.0	22.0	-63.6
1970	-92.6	-10.3	22.4	62.6	22.0	-17.5	13.3	64.3	32.9	-7.0	-12.0	-16.6
1971	62.4	64.7	-18.6	-9.4	57.0	-40.5	-21.7	-43.7	-8.1	16.0	27.0	47.4
1972	59.4	-12.3	1.4	-6.4	13.0	39.5	-21.7	-0.7	5.9	53.0	2.0	12.4
1973	-25.6	-1.3	36.4	89.6	18.0	9.5	45.3	102.3	-19.1	-1.0	-5.0	-60.6
1974	55.4	34.7	-11.6	-4.4	64.0	61.5	-53.7	39.3	-0.1	34.0	14.0	32.4
1975	52.4	-13.3	10.4	53.6	13.0	104.5	-7.7	27.3	33.9	-18.0	19.0	43.4
1976	53.4	47.7	24.4	-20.4	44.0	50.5	-45.7	-51.7	13.9	0.0	13.0	28.4
1977	42.4	-5.3	48.4	-8.4	-52.0	87.5	51.3	-16.7	-6.1	-3.0	18.0	-54.6
1978	-106.6	-16.3	4.4	-25.4	23.0	-28.5	51.3	-22.7	-30.1	26.0	40.0	58.4
1979	33.4	-17.3	7.4	-22.4	12.0	37.5	-78.7	-49.7	-30.1	-11.0	-52.0	-90.6
1980	56.4	-72.3	26.4	-29.4	34.0	-32.5	11.3	83.3	-9.1	-10.0	-10.0	-60.6
1981	-115.6	12.7	3.4	8.6	-22.0	-37.5	60.3	-17.7	-23.1	-8.0	-33.0	-49.6
1982	56.4	20.7	2.4	-32.4	101.0	-49.5	-43.7	-44.7	-1.1	-29.0	-13.0	-41.6
1983	-148.6	-204.3	-124.6	-27.4	-32.0	-38.5	-79.7	-52.7	22.9	-7.0	-108.0	33.4
1984	46.4	-33.3	-4.6	-17.4	-67.0	-14.5	40.3	-32.7	-7.1	-11.0	-81.0	51.4
1985	31.4	60.7	9.4	-14.4	-56.0	-26.5	-60.7	-32.7	-17.1	-6.0	37.0	-24.6
1986	-205.6	-20.3	-14.6	11.6	-74.0	-80.5	-22.7	-18.7	-27.1	-13.0	35.0	-45.6
1987	-26.6	39.7	-21.6	-22.4	-33.0	-34.5	-74.7	44.3	-0.1	2.0	-4.0	17.4
1988	-28.6	51.7	15.4	-29.4	-75.0	-50.5	-4.7	26.3	5.9	-3.0	-20.0	51.4
1989	63.4	50.7	-38.6	-30.4	-22.0	-37.5	-12.7	13.3	-11.1	-5.0	36.0	39.4
1990	40.4	42.7	5.4	-5.4	-62.0	-69.5	-18.7	-50.7	7.9	5.0	36.0	57.4
1991	42.4	6.7	14.4	4.6	47.0	53.5	30.3	-46.7	38.9	26.0	31.0	27.4
1992	-54.6	-71.3	7.4	-37.4	53.0	-16.5	-14.7	21.3	3.9	-7.0	25.0	34.4
1993	24.4	15.7	-13.6	-58.4	-89.0	-29.5	44.3	30.3	33.9	-2.0	42.0	-19.6
1994	23.4	20.7	4.4	-3.4	-13.0	-17.5	54.3	-2.7	-2.1	14.0	26.0	-44.6
1995	-268.6	42.7	-25.6	-20.4	31.0	-40.5	-58.7	2.3	-19.1	11.0	-3.0	-87.6
mean	**-63.4**	**-51.7**	**-4.4**	**35.4**	**88.0**	**115.5**	**140.7**	**95.7**	**38.1**	**7.0**	**-36.0**	**-55.4**
sd	**75.7**	**56.7**	**32.1**	**38.2**	**50.9**	**52.3**	**52.2**	**50.7**	**19.4**	**18.1**	**38.0**	**48.2**

MONTHLY ANOMALIES 39°N, 125°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	28.0	0.2	14.3	-60.8	-111.3	-119.0	-99.7	-27.2	-70.0	14.3	-0.6	5.6
1947	36.0	7.2	-28.7	-36.8	-128.3	-108.0	-156.7	-13.2	-24.0	-35.7	38.4	11.6
1948	18.0	59.2	-2.7	-89.8	-149.3	-122.0	-91.7	-65.2	-51.0	-32.7	1.4	17.6
1949	62.0	32.2	-34.7	-52.8	-129.3	-65.0	-79.7	-108.2	-64.0	20.3	-40.6	21.6
1950	46.0	3.2	-18.7	-24.8	13.7	-109.0	-34.7	-92.2	-57.0	-50.7	-5.6	-47.4
1951	29.0	12.2	59.3	-30.8	-109.3	-60.0	-36.7	-3.2	-72.0	-32.7	-23.6	14.6
1952	19.0	12.2	73.3	-51.8	-96.3	-93.0	-95.7	-56.2	-53.0	-44.7	-5.6	-34.4
1953	-17.0	75.2	9.3	-54.8	-122.3	-41.0	-65.7	-129.2	-72.0	-24.7	-28.6	18.6
1954	17.0	2.2	-19.7	-61.8	-73.3	-106.0	-94.7	-87.2	-48.0	-43.7	-32.6	-18.4
1955	25.0	36.2	34.3	-23.8	87.7	-21.0	2.3	71.8	28.0	-12.7	8.4	-33.4
1956	-40.0	30.2	7.3	10.2	-90.3	-27.0	-35.7	-24.2	-79.0	0.3	-3.6	11.6
1957	23.0	0.2	-14.7	-19.8	-161.3	-64.0	-22.7	-15.2	-93.0	-36.7	-3.6	-8.4
1958	-91.0	-139.8	-20.7	-46.8	-149.3	-140.0	-90.7	-39.2	-27.0	-35.7	5.4	-4.4
1959	18.0	20.2	52.3	26.2	-34.3	-24.0	17.3	27.8	-18.0	18.3	1.4	11.6
1960	2.0	28.2	-6.7	-68.8	-148.3	-63.0	-140.7	-52.2	-33.0	-32.7	-6.6	-21.4
1961	-65.0	23.2	-4.7	-42.8	-121.3	-128.0	-129.7	-116.2	-22.0	-1.7	-9.6	24.6
1962	29.0	-8.8	-20.7	-45.8	-93.3	-72.0	-53.7	-107.2	-34.0	-39.7	0.4	-19.4
1963	33.0	-33.8	-21.7	-82.8	-115.3	24.0	-84.7	-22.2	-102.0	-42.7	-9.6	-0.4
1964	31.0	116.2	62.3	174.2	-56.3	-81.0	-14.7	14.8	89.0	-37.7	-10.6	-0.4
1965	12.0	46.2	3.3	-51.8	103.7	-0.0	-77.7	-80.2	-27.0	-35.7	-57.6	13.6
1966	21.0	13.2	-19.7	29.2	-3.3	-38.0	-53.7	20.8	-67.0	7.3	-17.6	3.6
1967	15.0	50.2	-12.7	-51.8	2.7	-21.0	20.3	-8.2	-37.0	-26.7	-5.6	16.6
1968	12.0	-49.8	-28.7	128.2	-85.3	10.0	-17.7	-120.2	-29.0	-22.7	-12.6	-28.4
1969	14.0	-36.8	-14.7	-54.8	-84.3	-85.0	100.3	174.8	13.0	-35.7	-3.6	-37.4
1970	-119.0	-29.8	26.3	122.2	-8.3	-80.0	-25.7	36.8	32.0	-31.7	-33.6	-5.4
1971	36.0	60.2	-22.7	-20.8	-14.3	-61.0	-70.7	-97.2	-42.0	28.3	2.4	19.6
1972	25.0	-8.8	-8.7	-6.8	-12.3	24.0	-48.7	-20.2	-24.0	-3.7	-7.6	8.6
1973	-27.0	-42.8	70.3	156.2	55.7	95.0	84.3	136.8	-19.0	8.3	-12.6	-24.4
1974	23.0	19.2	-28.7	8.2	159.7	67.0	-57.7	67.8	-1.0	69.3	-3.6	15.6
1975	42.0	-9.8	-9.7	53.2	57.7	125.0	-9.7	64.8	60.0	-20.7	13.4	15.6
1976	31.0	19.2	70.3	-37.8	134.7	74.0	9.3	-71.2	29.0	34.3	-3.6	13.6
1977	22.0	15.2	109.3	24.2	-99.3	142.0	125.3	10.8	-12.0	34.3	8.4	-38.4
1978	-90.0	-3.8	-28.7	-61.8	92.7	3.0	124.3	62.8	14.0	92.3	48.4	38.6
1979	20.0	4.2	-16.7	-60.8	46.7	79.0	-69.7	-41.2	-17.0	-37.7	-22.6	-26.4
1980	21.0	-66.8	60.3	-34.8	67.7	-35.0	-6.7	155.8	11.0	-7.7	1.4	-11.4
1981	-68.0	7.2	-6.7	94.2	53.7	88.0	106.3	33.8	2.0	-22.7	-22.6	-31.4
1982	30.0	9.2	-30.7	-82.8	132.7	-116.0	-50.7	-59.2	39.0	-39.7	-13.6	-8.4
1983	-66.0	-131.8	-108.7	-77.8	-68.3	17.0	-22.7	-79.2	38.0	-21.7	-34.6	-5.4
1984	39.0	8.2	0.3	14.2	-40.3	95.0	35.3	-0.2	78.0	-7.7	-37.6	12.6
1985	22.0	96.2	13.3	10.2	-76.3	-44.0	-92.7	-43.2	-30.0	24.3	16.4	-0.4
1986	-102.0	-26.8	-27.7	40.2	-87.3	-110.0	10.3	-24.2	-47.0	-25.7	34.4	-11.4
1987	7.0	12.2	-32.7	-14.8	-28.3	-55.0	-72.7	-1.2	22.0	-17.7	-5.6	-0.4
1988	0.0	53.2	80.3	-73.8	-114.3	-55.0	23.3	-0.2	39.0	-4.7	-4.6	23.6
1989	58.0	20.2	-52.7	-66.8	-18.3	-97.0	79.3	49.8	-49.0	-1.7	43.4	16.6
1990	34.0	28.2	3.3	-14.8	-109.3	-95.0	-133.7	-120.2	-44.0	29.3	33.4	40.6
1991	20.0	5.2	-3.7	8.2	42.7	36.0	-38.7	-108.2	-26.0	7.3	21.4	7.6
1992	-2.0	-59.8	-28.7	-78.8	-16.3	-102.0	-91.7	-31.2	-32.0	-37.7	2.4	12.6
1993	14.0	-8.8	-27.7	-64.8	-193.3	-11.0	38.3	-21.2	2.0	-6.7	8.4	-6.4
1994	16.0	7.2	-13.7	19.2	-31.3	-7.0	10.3	19.8	-34.0	47.3	22.4	-3.4
1995	-261.0	10.2	-37.7	-45.8	-26.3	-92.0	-133.7	39.8	-17.0	48.3	2.4	-30.4
mean	**-22.0**	**-10.2**	**30.7**	**96.8**	**196.3**	**230.0**	**239.7**	**182.2**	**105.0**	**44.7**	**5.6**	**-10.6**
sd	**48.9**	**45.7**	**47.5**	**67.6**	**81.2**	**79.3**	**71.1**	**81.9**	**35.6**	**33.6**	**23.2**	**22.3**

MONTHLY ANOMALIES 36°N, 122°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	29.8	1.9	30.5	-36.1	-69.6	6.9	-75.0	-42.2	-46.5	2.5	-1.4	1.0
1947	32.8	-5.1	-31.5	-27.1	-137.6	-96.1	-49.0	-34.2	-18.5	-8.5	46.6	33.0
1948	-3.2	63.9	0.5	-100.1	-89.6	-136.1	-77.0	-39.2	-8.5	-7.5	10.6	11.0
1949	32.8	21.9	-52.5	-43.1	-127.6	-100.1	-108.0	-57.2	-61.5	12.5	-21.4	18.0
1950	34.8	-11.1	-12.5	-24.1	-59.6	-97.1	-113.0	-81.2	-50.5	-36.5	-17.4	-3.0
1951	40.8	8.9	36.5	-68.1	-76.6	-102.1	-66.0	-82.2	-47.5	-13.5	-17.4	4.0
1952	4.8	3.9	37.5	-71.1	-72.6	-65.1	-155.0	-53.2	-64.5	-37.5	-14.4	-1.0
1953	10.8	101.9	50.5	-19.1	-97.6	7.9	-103.0	-107.2	-74.5	-8.5	-13.4	30.0
1954	13.8	-12.1	-31.5	-51.1	-81.6	-26.1	-106.0	-20.2	12.5	-13.5	-11.4	-10.0
1955	14.8	22.9	17.5	6.9	104.4	113.9	63.0	100.8	110.5	35.5	29.6	-6.0
1956	2.8	30.9	73.5	-22.1	-69.6	149.9	48.0	100.8	5.5	46.5	-15.4	14.0
1957	3.8	-13.1	27.5	13.9	-113.6	58.9	44.0	74.8	-27.5	-13.5	-3.4	-3.0
1958	-4.2	-38.1	-34.5	-22.1	-127.6	-20.1	14.0	26.8	27.5	-5.5	36.6	0.0
1959	11.8	1.9	93.5	11.9	57.4	162.9	90.0	55.8	83.5	55.5	0.6	10.0
1960	0.8	45.9	38.5	-7.1	-8.6	-109.1	-135.0	-27.2	-20.5	14.5	-7.4	2.0
1961	-15.2	59.9	69.5	-21.1	-0.6	-111.1	-94.0	-100.2	-48.5	5.5	-17.4	27.0
1962	17.8	-6.1	-41.5	2.9	-34.6	-64.1	-21.0	-48.2	0.5	-7.5	32.6	-5.0
1963	5.8	-13.1	-31.5	-91.1	-103.6	-18.1	-24.0	4.8	-77.5	-23.5	-16.4	-7.0
1964	22.8	57.9	68.5	117.9	52.4	45.9	85.0	45.8	49.5	-14.5	-17.4	8.0
1965	6.8	66.9	-8.5	-93.1	73.4	29.9	0.0	19.8	-13.5	-17.5	-28.4	1.0
1966	3.8	10.9	-1.5	-12.1	-34.6	56.9	43.0	53.8	-14.5	10.5	-18.4	3.0
1967	1.8	13.9	-13.5	-51.1	23.4	-6.1	20.0	25.8	-13.5	10.5	-19.4	8.0
1968	-3.2	-20.1	-22.5	96.9	63.4	95.9	24.0	-30.2	29.5	8.5	-0.4	-3.0
1969	-3.2	-15.1	-6.5	13.9	4.4	-5.1	75.0	93.8	33.5	0.5	-23.4	-2.0
1970	-17.2	-17.1	19.5	148.9	-16.6	-45.1	-46.0	32.8	-1.5	-14.5	-19.4	-2.0
1971	12.8	81.9	2.5	53.9	-20.6	43.9	12.0	-36.2	-26.5	23.5	6.6	5.0
1972	9.8	-9.1	41.5	-1.1	-59.6	-22.1	-31.0	-9.2	-22.5	-45.5	-17.4	2.0
1973	-2.2	-42.1	57.5	59.9	17.4	16.9	67.0	61.8	5.5	-6.5	-1.4	-2.0
1974	-0.2	18.9	-37.5	-0.1	118.4	37.9	-15.0	28.8	22.5	19.5	0.6	17.0
1975	26.8	-4.1	-10.5	7.9	28.4	36.9	38.0	12.8	46.5	21.5	38.6	21.0
1976	21.8	5.9	58.5	-33.1	16.4	-54.1	-4.0	-79.2	-25.5	-0.5	-14.4	-1.0
1977	1.8	19.9	75.5	4.9	-104.6	-18.1	19.0	-15.2	-20.5	17.5	22.6	-12.0
1978	-36.2	-13.1	-60.5	-89.1	-54.6	-10.1	24.0	-5.2	-22.5	18.5	3.6	10.0
1979	-3.2	-4.1	-35.5	12.9	16.4	99.9	10.0	70.8	15.5	-8.5	-15.4	-11.0
1980	-1.2	-31.1	39.5	-4.1	74.4	41.9	-4.0	87.8	25.5	1.5	13.6	-9.0
1981	-20.2	-9.1	-9.5	40.9	90.4	38.9	22.0	63.8	53.5	-7.5	-18.4	1.0
1982	1.8	-10.1	-56.5	-107.1	-3.6	-43.1	-7.0	-18.2	9.5	-23.5	-18.4	1.0
1983	-23.2	-30.1	-61.5	-113.1	-55.6	18.9	-5.0	-72.2	-31.5	-19.5	-7.4	0.0
1984	12.8	8.9	35.5	82.9	34.4	85.9	-42.0	0.8	7.5	43.5	-15.4	-5.0
1985	-1.2	36.9	22.5	1.9	-14.6	-51.1	-26.0	-8.2	-21.5	24.5	9.6	-13.0
1986	-15.2	-16.1	-39.5	9.9	-36.6	-52.1	-23.0	-7.2	-10.5	-0.5	26.6	-4.0
1987	4.8	-2.1	-41.5	-15.1	-51.6	-53.1	-12.0	-50.2	23.5	-31.5	-4.4	-3.0
1988	-0.2	8.9	77.5	-95.1	-51.6	-45.1	-16.0	-40.2	7.5	6.5	3.6	1.0
1989	22.8	6.9	-39.5	-68.1	11.4	-59.1	107.0	29.8	-15.5	-22.5	-2.4	-5.0
1990	9.8	27.9	30.5	-10.1	-93.6	-31.1	-101.0	-81.2	-18.5	-3.5	20.6	14.0
1991	-1.2	-7.1	-26.5	52.9	63.4	-22.1	-86.0	-55.2	-49.5	-11.5	31.6	-8.0
1992	-2.2	-30.1	-53.5	-21.1	-80.6	-77.1	-56.0	-22.2	-9.5	-27.5	10.6	-3.0
1993	-14.2	-23.1	-14.5	49.9	-170.6	-49.1	-32.0	-54.2	-8.5	-35.5	-16.4	-2.0
1994	2.8	-10.1	-4.5	43.9	-46.6	37.9	14.0	37.8	-10.5	21.5	19.6	4.0
1995	-107.2	-8.1	-56.5	-17.1	-54.6	-65.1	-78.0	-1.2	32.5	4.5	27.6	4.0
mean	**0.2**	**14.1**	**65.5**	**148.1**	**242.6**	**250.1**	**228.0**	**188.2**	**105.5**	**49.5**	**18.4**	**2.0**
sd	**14.6**	**25.3**	**43.1**	**64.5**	**56.4**	**49.2**	**45.7**	**50.5**	**26.4**	**20.2**	**17.7**	**8.7**

MONTHLY ANOMALIES 33°N, 119°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	26.4	10.8	-6.5	-51.6	-36.1	10.6	-103.1	-85.6	-52.0	-32.9	-15.0	-2.8
1947	19.4	-9.2	-42.5	-46.6	-158.1	-176.4	-51.1	-81.6	-63.0	-21.9	-11.0	6.2
1948	-9.6	25.8	-38.5	-113.6	-107.1	-190.4	-159.1	-126.6	-76.0	-44.9	-38.0	1.2
1949	17.4	15.8	-39.5	-76.6	-144.1	-185.4	-172.1	-103.6	-90.0	-30.9	-29.0	1.2
1950	35.4	-14.2	-37.5	-60.6	-126.1	-146.4	-193.1	-127.6	-57.0	-33.9	-25.0	12.2
1951	65.4	18.8	-30.5	-91.6	-71.1	-121.4	-120.1	-131.6	-41.0	-18.9	-15.0	11.2
1952	3.4	-10.2	-1.5	-107.6	-71.1	-127.4	-181.1	-92.6	-82.0	-12.9	-16.0	0.2
1953	11.4	49.8	41.5	53.4	-76.1	-11.4	-126.1	-57.6	-41.0	-4.9	15.0	15.2
1954	23.4	-8.2	-44.5	-23.6	-93.1	-62.4	-157.1	0.4	-16.0	-7.9	-13.0	-9.8
1955	19.4	-0.2	-44.5	58.4	55.9	96.6	-7.1	0.4	90.0	67.1	35.0	14.2
1956	29.4	59.8	59.5	14.4	-32.1	122.6	51.9	134.4	27.0	62.1	-48.0	-4.8
1957	2.4	1.8	67.5	68.4	-46.1	10.6	2.9	38.4	39.0	29.1	9.0	2.2
1958	14.4	22.8	-0.5	29.4	-45.1	103.6	70.9	11.4	27.0	4.1	32.0	-1.8
1959	29.4	-0.2	34.5	10.4	90.9	153.6	61.9	33.4	86.0	45.1	-16.0	-2.8
1960	9.4	60.8	77.5	-34.6	39.9	-140.4	-155.1	-54.6	-51.0	6.1	-12.0	3.2
1961	-16.6	66.8	101.5	-38.6	41.9	-96.4	-134.1	-131.6	-95.0	-43.9	-19.0	5.2
1962	-6.6	10.8	-51.5	-17.6	-25.1	-113.4	4.9	-43.6	-20.0	3.1	32.0	-8.8
1963	-8.6	-5.2	-22.5	-44.6	-67.1	-27.4	17.9	-33.6	-108.0	-40.9	-15.0	-23.8
1964	13.4	-2.2	34.5	86.4	159.9	177.6	123.9	112.4	82.0	14.1	-13.0	28.2
1965	13.4	33.8	4.5	-137.6	-14.1	-15.4	28.9	-1.6	-12.0	-24.9	-29.0	0.2
1966	4.4	12.8	-19.5	-17.6	-15.1	8.6	42.9	11.4	-11.0	-19.9	-13.0	0.2
1967	-2.6	-15.2	6.5	-26.6	5.9	56.6	34.9	58.4	-0.0	-16.9	-26.0	-4.8
1968	-4.6	-20.2	-29.5	1.4	93.9	67.6	-24.1	7.4	43.0	8.1	15.0	-1.8
1969	-2.6	4.8	6.5	35.4	43.9	39.6	76.9	35.4	71.0	45.1	-40.0	27.2
1970	1.4	-22.2	-4.5	71.4	-10.1	-3.4	-46.1	27.4	-11.0	15.1	-15.0	3.2
1971	9.4	75.8	23.5	83.4	11.9	82.6	48.9	-58.6	-20.0	-10.9	14.0	13.2
1972	1.4	0.8	52.5	26.4	-66.1	-54.4	-25.1	-36.6	-10.0	-43.9	-16.0	16.2
1973	8.4	-31.2	66.5	14.4	-19.1	-55.4	8.9	-3.6	13.0	-14.9	43.0	16.2
1974	-5.6	10.8	-24.5	5.4	62.9	-7.4	-50.1	7.4	5.0	17.1	-6.0	-3.8
1975	3.4	12.8	7.5	-4.6	-27.1	24.6	42.9	13.4	12.0	20.1	23.0	8.2
1976	-7.6	1.8	4.5	-3.6	-5.1	-75.4	-2.1	-25.6	-66.0	-29.9	-28.0	-13.8
1977	2.4	24.8	47.5	5.4	-85.1	-12.4	5.9	-12.6	4.0	11.1	5.0	-12.8
1978	-8.6	-22.2	-93.5	-48.6	-114.1	-31.4	2.9	-27.6	-57.0	-12.9	-10.0	-13.8
1979	-10.6	-1.2	-51.5	71.4	-29.1	-20.4	20.9	38.4	-25.0	61.1	-10.0	-16.8
1980	-3.6	-32.2	-20.5	-9.6	75.9	69.6	32.9	63.4	70.0	-10.9	-4.0	-22.8
1981	-8.6	-22.2	-10.5	10.4	24.9	-77.4	-11.1	34.4	46.0	3.1	-5.0	21.2
1982	9.4	-5.2	-62.5	-78.6	-37.1	52.6	-18.1	-3.6	-13.0	-19.9	-23.0	9.2
1983	-7.6	-12.2	-19.5	-89.6	3.9	35.6	18.9	-89.6	-35.0	-26.9	34.0	26.2
1984	5.4	30.8	24.5	76.4	-1.1	56.6	-64.1	-43.6	-64.0	65.1	20.0	-7.8
1985	1.4	3.8	54.5	-7.6	20.9	-43.4	-24.1	4.4	-27.0	5.1	12.0	-15.8
1986	-8.6	-3.2	-28.5	-31.6	-38.1	-4.4	-33.1	-15.6	48.0	-7.9	-16.0	-5.8
1987	14.4	-5.2	-31.5	-51.6	-69.1	-41.4	45.9	5.4	36.0	-40.9	-4.0	0.2
1988	1.4	-25.2	-6.5	-95.6	-4.1	-16.4	7.9	31.4	-0.0	35.1	51.0	7.2
1989	8.4	12.8	40.5	-3.6	69.9	49.6	83.9	87.4	24.0	-10.9	-14.0	-17.8
1990	3.4	41.8	66.5	11.4	23.9	-54.4	-102.1	-49.6	-20.0	-37.9	2.0	-1.8
1991	0.4	-2.2	-17.5	38.4	66.9	-37.4	-32.1	-46.6	-23.0	-0.9	-1.0	-7.8
1992	-14.6	-32.2	-82.5	-51.6	-111.1	-67.4	-102.1	-54.6	-19.0	-6.9	-13.0	-1.8
1993	-7.6	-17.2	-38.5	14.4	-138.1	-145.4	-51.1	-73.6	-37.0	-41.9	-27.0	-3.8
1994	3.4	-23.2	-48.5	2.4	-92.1	-35.4	47.9	-21.6	-2.0	9.1	13.0	6.2
1995	-7.6	-17.2	-69.5	-0.6	-70.1	-78.4	-61.1	-15.6	17.0	-19.9	1.0	18.2
mean	**6.6**	**32.2**	**115.5**	**201.6**	**309.1**	**337.4**	**279.1**	**237.6**	**154.0**	**79.9**	**32.0**	**7.8**
sd	**6.8**	**24.6**	**40.6**	**48.8**	**52.4**	**49.5**	**43.8**	**41.9**	**37.9**	**29.2**	**22.3**	**14.3**

MONTHLY ANOMALIES 30°N, 119°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	67.8	14.1	11.7	-10.2	36.6	134.5	38.1	38.9	71.8	-18.4	-24.2	0.9
1947	67.8	-5.9	-9.3	25.8	-101.4	-36.5	74.1	-10.1	-33.2	-9.4	-8.2	8.9
1948	-12.2	36.1	-38.3	-104.2	4.6	-61.5	-42.9	-43.1	-30.2	-23.4	-6.2	-21.1
1949	20.8	55.1	-30.3	-15.2	-57.4	-52.5	-55.9	-7.1	-12.2	-13.4	5.8	0.9
1950	17.8	-7.9	-3.3	-14.2	-62.4	-48.5	-92.9	-41.1	-34.2	-34.4	-20.2	35.9
1951	69.8	19.1	-5.3	-74.2	-11.4	-5.5	-11.9	-42.1	19.8	23.6	-5.2	-3.1
1952	-18.2	-30.9	-12.3	-66.2	8.6	-62.5	-84.9	-47.1	-37.2	2.6	-24.2	-21.1
1953	13.8	59.1	37.7	17.8	2.6	22.5	-25.9	28.9	18.8	34.6	49.8	60.9
1954	34.8	28.1	-43.3	8.8	-42.4	-2.5	-60.9	15.9	28.8	0.6	-9.2	-3.1
1955	38.8	2.1	-21.3	60.8	49.6	86.5	33.1	10.9	106.8	68.6	32.8	8.9
1956	29.8	32.1	86.7	-0.2	22.6	84.5	22.1	82.9	44.8	34.6	-18.2	-0.1
1957	-22.2	-9.9	44.7	18.8	-25.4	61.5	33.1	7.9	31.8	17.6	14.8	18.9
1958	62.8	9.1	-19.3	63.8	-24.4	45.5	16.1	-32.1	29.8	25.6	36.8	4.9
1959	56.8	-32.9	47.7	-16.2	15.6	91.5	26.1	-23.1	15.8	48.6	-14.2	-25.1
1960	2.8	34.1	48.7	-21.2	83.6	-79.5	-57.9	-24.1	-2.2	16.6	-31.2	13.9
1961	-9.2	91.1	47.7	-1.2	-5.4	-54.5	-74.9	-38.1	-65.2	-38.4	-31.2	0.9
1962	6.8	-19.9	-38.3	23.8	-3.4	5.5	-13.9	3.9	12.8	-7.4	24.8	-20.1
1963	-33.2	-2.9	-33.3	-50.2	-65.4	-49.5	13.1	-31.1	-42.2	-33.4	-15.2	-11.1
1964	26.8	-2.9	28.7	3.8	9.6	-8.5	7.1	-28.1	-17.2	-44.4	-40.2	20.9
1965	1.8	-11.9	-70.3	-126.2	-30.4	-70.5	-73.9	-88.1	-76.2	-46.4	-77.2	-25.1
1966	1.8	-16.9	-48.3	-101.2	-134.4	-91.5	-36.9	-101.1	-59.2	-53.4	-64.2	-10.1
1967	-13.2	-0.9	-64.3	-92.2	-52.4	-82.5	-42.9	-6.1	-64.2	-13.4	-65.2	5.9
1968	-10.2	-35.9	-28.3	-49.2	-63.4	-55.5	-66.9	-54.1	-31.2	-28.4	11.8	-20.1
1969	-34.2	-20.9	15.7	19.8	11.6	-18.5	50.1	39.9	37.8	29.6	-71.2	17.9
1970	-15.2	-52.9	-24.3	17.8	25.6	25.5	8.1	62.9	22.8	12.6	-23.2	-7.1
1971	39.8	98.1	45.7	66.8	25.6	52.5	27.1	-15.1	34.8	37.6	60.8	29.9
1972	48.8	22.1	65.7	14.8	-50.4	-44.5	-43.9	-49.1	-45.2	-43.4	-11.2	32.9
1973	21.8	-58.9	57.7	26.8	-60.4	-34.5	-31.9	-13.1	-14.2	-14.4	14.8	44.9
1974	-20.2	38.1	-27.3	68.8	68.6	50.5	-21.9	4.9	5.8	-0.4	-4.2	-18.1
1975	7.8	-3.9	6.7	8.8	-28.4	-15.5	23.1	31.9	44.8	41.6	55.8	5.9
1976	1.8	-1.9	18.7	-5.2	15.6	-13.5	-8.9	-17.1	-65.2	-24.4	-24.2	-24.1
1977	-4.2	65.1	80.7	3.8	-33.4	9.5	12.1	14.9	-30.2	20.6	15.8	-39.1
1978	-33.2	-36.9	-77.3	-24.2	-24.4	11.5	15.1	-20.1	-1.2	-5.4	-15.2	-23.1
1979	-35.2	11.1	-55.3	57.8	-46.4	-2.5	-6.9	13.9	39.8	50.6	11.8	-14.1
1980	-22.2	-48.9	0.7	36.8	23.6	96.5	42.1	-27.1	50.8	19.6	50.8	9.9
1981	-13.2	-8.9	9.7	7.8	0.6	-26.5	-15.9	71.9	37.8	2.6	2.8	66.9
1982	8.8	5.1	-69.3	-30.2	-22.4	88.5	31.1	53.9	6.8	17.6	-33.2	24.9
1983	-13.2	5.1	-22.3	-65.2	82.6	35.5	78.1	-22.1	-38.2	-21.4	36.8	23.9
1984	57.8	73.1	41.7	60.8	75.6	80.5	-11.9	-36.1	-28.2	53.6	-4.2	-35.1
1985	-15.2	-4.9	23.7	4.8	-3.4	-45.5	-16.9	-16.1	-58.2	-9.4	-19.2	-8.1
1986	-11.2	-7.9	-19.3	-30.2	-32.4	12.5	-14.9	-15.1	20.8	-12.4	-33.2	-11.1
1987	38.8	-4.9	-25.3	-20.2	-53.4	-61.5	65.1	-19.1	20.8	-67.4	-15.2	-13.1
1988	-3.2	-38.9	24.7	-82.2	3.6	-4.5	-40.9	16.9	-4.2	-5.4	34.8	12.9
1989	34.8	-5.9	29.7	-26.2	31.6	-10.5	36.1	4.9	5.8	-31.4	-19.2	-22.1
1990	-7.2	28.1	31.7	-33.2	34.6	-6.5	-61.9	-12.1	2.8	-18.4	12.8	-10.1
1991	-10.2	-13.9	-40.3	63.8	71.6	-40.5	-1.9	5.9	47.8	9.6	30.8	-31.1
1992	1.8	-58.9	-87.3	-8.2	-79.4	-47.5	-81.9	-31.1	-12.2	-20.4	9.8	-6.1
1993	-28.2	-53.9	-16.3	113.8	-91.4	-51.5	-57.9	-52.1	-19.2	-34.4	-41.2	0.9
1994	24.8	-40.9	-44.3	23.8	-74.4	8.5	6.1	-16.1	-2.2	26.6	20.8	3.9
1995	-32.2	-23.9	-44.3	23.8	-103.4	-21.5	-45.9	-0.1	21.8	0.6	-19.2	26.9
mean	**42.2**	**65.9**	**120.3**	**165.2**	**215.4**	**212.5**	**168.9**	**162.1**	**135.2**	**104.4**	**78.2**	**52.1**
sd	**26.2**	**38.6**	**43.3**	**45.7**	**45.1**	**47.2**	**38.1**	**32.5**	**36.6**	**29.7**	**34.1**	**26.7**

MONTHLY ANOMALIES 27°N, 116°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	3.3	-17.0	2.8	12.7	150.7	120.0	57.0	28.2	61.3	-32.9	-29.0	-17.6
1947	63.3	-7.0	21.8	5.7	-78.3	-24.0	97.0	17.2	-46.7	7.1	-15.0	13.4
1948	6.3	8.0	-17.2	-33.3	37.7	-19.0	-11.0	-15.8	-23.7	-1.9	-12.0	-24.6
1949	-13.7	68.0	17.8	18.7	5.7	-20.0	-23.0	8.2	-51.7	-9.9	-5.0	-4.6
1950	19.3	38.0	0.8	2.7	9.7	6.0	-62.0	13.2	-0.7	-15.9	16.0	45.4
1951	80.3	62.0	-9.2	-21.3	51.7	80.0	1.0	-23.8	39.3	29.1	28.0	2.4
1952	20.3	-11.0	-8.2	-41.3	-1.3	-23.0	-30.0	-40.8	-39.7	-22.9	-9.0	-11.6
1953	4.3	5.0	35.8	30.7	74.7	100.0	3.0	89.2	90.3	125.1	92.0	88.4
1954	36.3	53.0	-44.2	83.7	-13.3	4.0	-46.0	4.2	-9.7	13.1	-20.0	36.4
1955	33.3	18.0	9.8	96.7	50.7	96.0	76.0	8.2	94.3	142.1	25.0	45.4
1956	45.3	38.0	87.8	10.7	86.7	89.0	41.0	82.2	48.3	66.1	-6.0	4.4
1957	-16.7	43.0	29.8	25.7	9.7	32.0	47.0	-12.8	109.3	50.1	46.0	84.4
1958	123.3	86.0	40.8	60.7	107.7	123.0	44.0	-15.8	21.3	11.1	37.0	16.4
1959	70.3	-21.0	41.8	6.7	-5.3	99.0	32.0	-12.8	7.3	54.1	-6.0	-29.6
1960	27.3	51.0	43.8	-50.3	54.7	-63.0	-52.0	-34.8	-55.7	-17.9	-26.0	1.4
1961	-14.7	68.0	45.8	-20.3	21.7	-34.0	-56.0	-42.8	-68.7	-24.9	-28.0	-14.6
1962	-15.7	-15.0	-23.2	-2.3	20.7	19.0	34.0	-4.8	18.3	7.1	27.0	-7.6
1963	-18.7	2.0	-6.2	-2.3	-13.3	-13.0	13.0	-8.8	-65.7	-25.9	15.0	11.4
1964	32.3	11.0	-20.2	-6.3	73.7	68.0	25.0	4.2	-2.7	-26.9	-11.0	47.4
1965	0.3	4.0	-72.2	-118.3	-55.3	-49.0	-26.0	-72.8	-58.7	-50.9	-66.0	-30.6
1966	-6.7	-36.0	-76.2	-116.3	-104.3	-79.0	-23.0	-79.8	-38.7	-59.9	-42.0	-7.6
1967	20.3	13.0	-20.2	-11.3	-0.3	-3.0	18.0	-7.8	33.3	3.1	-38.0	-17.6
1968	0.3	-24.0	-27.2	-60.3	-38.3	-40.0	-11.0	-18.8	-9.7	12.1	33.0	14.4
1969	-27.7	1.0	52.8	15.7	0.7	-31.0	29.0	9.2	3.3	15.1	-58.0	26.4
1970	31.3	-35.0	-24.2	0.7	36.7	-12.0	-5.0	20.2	-2.7	13.1	11.0	43.4
1971	49.3	65.0	55.8	41.7	-0.3	9.0	-16.0	-43.8	31.3	27.1	101.0	82.4
1972	70.3	69.0	82.8	83.7	14.7	-12.0	-13.0	-54.8	-13.7	-29.9	4.0	29.4
1973	55.3	-41.0	55.8	28.7	-33.3	-36.0	-24.0	2.2	30.3	12.1	43.0	45.4
1974	6.3	36.0	6.8	55.7	26.7	-14.0	-47.0	2.2	-13.7	-13.9	-13.0	-12.6
1975	-6.7	15.0	10.8	30.7	-16.3	-13.0	-15.0	2.2	9.3	39.1	26.0	-11.6
1976	-22.7	-18.0	10.8	5.7	33.7	40.0	28.0	57.2	-50.7	-35.9	-45.0	-34.6
1977	-39.7	41.0	72.8	53.7	42.7	78.0	21.0	21.2	6.3	0.1	1.0	-25.6
1978	-13.7	-26.0	-43.2	25.7	-8.3	1.0	14.0	0.2	-12.7	19.1	-9.0	-20.6
1979	-35.7	20.0	-40.2	9.7	-57.3	-35.0	-3.0	-3.8	25.3	125.1	45.0	-9.6
1980	-20.7	-28.0	-27.2	46.7	48.7	73.0	13.0	-27.8	53.3	1.1	4.0	-27.6
1981	-34.7	-51.0	-40.2	-49.3	-67.3	-86.0	-40.0	9.2	-18.7	-29.9	-22.0	-10.6
1982	-10.7	-7.0	-50.2	-39.3	-72.3	23.0	-14.0	5.2	-18.7	-18.9	-36.0	-7.6
1983	-10.7	27.0	-13.2	-62.3	52.7	5.0	-11.0	-65.8	-88.7	-51.9	-3.0	-1.6
1984	20.3	46.0	-11.2	-9.3	-8.3	-14.0	-38.0	-52.8	-45.7	-14.9	-4.0	-41.6
1985	-30.7	-34.0	-12.2	-38.3	-11.3	-12.0	-44.0	-40.8	-56.7	-27.9	-43.0	-13.6
1986	-3.7	-6.0	-15.2	-63.3	-32.3	22.0	-2.0	-4.8	45.3	-2.9	-36.0	-4.6
1987	28.3	-7.0	-8.2	12.7	-26.3	27.0	127.0	37.2	38.3	-27.9	-9.0	14.4
1988	15.3	-34.0	8.8	-66.3	8.7	55.0	18.0	87.2	51.3	29.1	37.0	42.4
1989	3.3	10.0	24.8	23.7	35.7	21.0	25.0	-3.8	-17.7	-5.9	-26.0	-11.6
1990	-19.7	-1.0	-1.2	-69.3	11.7	-64.0	-52.0	20.2	-18.7	-16.9	12.0	-18.6
1991	-23.7	-31.0	-47.2	33.7	59.7	19.0	42.0	50.2	40.3	-19.9	25.0	-28.6
1992	-3.7	-48.0	-67.2	-8.3	-37.3	-2.0	-76.0	-21.8	-49.7	-1.9	-2.0	3.4
1993	-24.7	-45.0	13.8	72.7	-21.3	-11.0	6.0	-3.8	-12.7	8.1	-8.0	33.4
1994	29.3	-21.0	-23.2	17.7	-26.3	-11.0	19.0	-45.8	-19.7	23.1	19.0	-9.6
1995	1.3	-27.0	1.8	40.7	-38.3	47.0	12.0	-6.8	-9.7	59.1	4.0	35.4
mean	**49.7**	**69.0**	**116.2**	**152.3**	**181.3**	**174.0**	**114.0**	**112.8**	**107.7**	**93.9**	**73.0**	**51.6**
sd	**29.9**	**33.5**	**38.3**	**44.7**	**37.3**	**38.9**	**37.2**	**36.1**	**36.6**	**34.6**	**35.9**	**30.0**

MONTHLY ANOMALIES 24°N, 113°W

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	16.7	2.2	24.4	18.0	123.2	61.1	13.1	8.8	-8.4	-42.4	-24.2	-27.4
1947	-2.3	1.2	12.4	-27.0	-77.8	-51.9	81.1	19.8	-43.4	22.6	-11.2	4.6
1948	-27.3	-15.8	31.4	-18.0	-3.8	-26.9	-6.9	-16.2	-47.4	-2.4	-5.2	-10.4
1949	-19.3	62.2	20.4	6.0	-7.8	-19.9	-20.9	-16.2	-56.4	-3.4	-24.2	-9.4
1950	-5.3	43.2	11.4	-15.0	27.2	34.1	-31.9	42.8	19.6	-42.4	10.8	-3.4
1951	52.7	95.2	3.4	26.0	65.2	75.1	-12.9	-28.2	23.6	15.6	41.8	-0.4
1952	33.7	17.2	-9.6	-29.0	-32.8	-7.9	-18.9	-21.2	-48.4	-23.4	-21.2	-5.4
1953	-3.3	-4.8	15.4	21.0	19.2	59.1	-21.9	-1.2	26.6	55.6	27.8	56.6
1954	22.7	-11.8	-48.6	50.0	-27.8	-20.9	-34.9	-21.2	-45.4	-7.4	-24.2	10.6
1955	14.7	33.2	10.4	94.0	68.2	104.1	68.1	29.8	21.6	125.6	29.8	27.6
1956	31.7	55.2	74.4	30.0	95.2	58.1	28.1	58.8	-1.4	46.6	-0.2	23.6
1957	12.7	49.2	33.4	41.0	59.2	55.1	46.1	-4.2	119.6	43.6	76.8	70.6
1958	66.7	104.2	78.4	51.0	112.2	123.1	27.1	23.8	3.6	26.6	29.8	18.6
1959	61.7	10.2	33.4	15.0	26.2	92.1	34.1	14.8	44.6	87.6	20.8	-9.4
1960	70.7	90.2	66.4	-41.0	25.2	-39.9	-40.9	-15.2	-56.4	-16.4	-19.2	5.6
1961	-9.3	25.2	20.4	-37.0	-9.8	-39.9	-23.9	-23.2	-55.4	-12.4	-13.2	-4.4
1962	-6.3	-8.8	-30.6	-32.0	-11.8	5.1	11.1	-20.2	-30.4	28.6	18.8	-0.4
1963	-7.3	-12.8	-11.6	16.0	7.2	34.1	0.1	21.8	-26.4	2.6	30.8	-4.4
1964	13.7	12.2	-23.6	6.0	28.2	45.1	-14.9	-5.2	-26.4	-39.4	-31.2	-28.4
1965	-31.3	-42.8	-78.6	-76.0	-45.8	-16.9	-4.9	-39.2	-45.4	-50.4	-57.2	-37.4
1966	-19.3	-33.8	-77.6	-107.0	-110.8	-68.9	-29.9	-46.2	-57.4	-43.4	-49.2	-28.4
1967	-3.3	-14.8	-35.6	9.0	-24.8	29.1	28.1	-7.2	50.6	-4.4	-35.2	-32.4
1968	-32.3	-41.8	-59.6	-49.0	-8.8	-40.9	-13.9	0.8	7.6	3.6	14.8	5.6
1969	-21.3	14.2	14.4	3.0	-22.8	-29.9	-6.9	-20.2	-20.4	-51.4	-52.2	-7.4
1970	4.7	-38.8	-27.6	-6.0	-3.8	-31.9	-15.9	-19.2	-47.4	-14.4	-28.2	31.6
1971	48.7	40.2	44.4	29.0	22.2	25.1	-2.9	-30.2	-23.4	23.6	47.8	57.6
1972	46.7	25.2	72.4	80.0	49.2	51.1	4.1	-36.2	25.6	-34.4	6.8	7.6
1973	29.7	-17.8	66.4	26.0	12.2	2.1	6.1	34.8	63.6	25.6	52.8	34.6
1974	13.7	26.2	11.4	22.0	17.2	-22.9	-24.9	1.8	-5.4	-4.4	-9.2	19.6
1975	6.7	33.2	44.4	69.0	0.2	-11.9	-11.9	-2.2	-8.4	37.6	3.8	-2.4
1976	-14.3	-1.8	38.4	37.0	61.2	67.1	58.1	37.8	-1.4	13.6	-18.2	-5.4
1977	-15.3	44.2	64.4	78.0	54.2	58.1	30.1	19.8	9.6	-22.4	13.8	-6.4
1978	-6.3	0.2	-23.6	38.0	14.2	-0.9	7.1	15.8	27.6	22.6	10.8	-8.4
1979	-15.3	19.2	-12.6	-14.0	-20.8	23.1	19.1	44.8	47.6	114.6	22.8	-19.4
1980	1.7	1.2	-16.6	17.0	34.2	-0.9	-1.9	-13.2	41.6	-3.4	6.8	-14.4
1981	-28.3	-35.8	-33.6	-22.0	-39.8	-38.9	-8.9	6.8	5.6	3.6	-0.2	-19.4
1982	-7.3	-35.8	-41.6	-47.0	-60.8	-16.9	-9.9	-0.2	8.6	1.6	-9.2	-6.4
1983	-3.3	42.2	8.4	-20.0	67.2	27.1	6.1	-8.2	-51.4	-10.4	11.8	9.6
1984	25.7	23.2	-4.6	-18.0	-7.8	-48.9	-12.9	-17.2	-35.4	-17.4	-1.2	-24.4
1985	-19.3	-26.8	-15.6	-57.0	-8.8	-11.9	-26.9	-28.2	-33.4	-14.4	-24.2	-9.4
1986	-3.3	-14.8	-4.6	-56.0	-27.8	-20.9	-24.9	-17.2	14.6	5.6	-19.2	-12.4
1987	5.7	-2.8	-8.6	-16.0	-41.8	40.1	19.1	-6.2	-17.4	-30.4	-12.2	6.6
1988	1.7	-30.8	-20.6	-64.0	-49.8	38.1	12.1	19.8	24.6	14.6	15.8	24.6
1989	-5.3	6.2	-22.6	9.0	-25.8	-19.9	4.1	16.8	-26.4	3.6	-20.2	-11.4
1990	-15.3	-15.8	-23.6	-45.0	-20.8	-77.9	-42.9	1.8	-35.4	-24.4	11.8	-11.4
1991	4.7	1.2	-13.6	-3.0	32.2	13.1	10.1	3.8	-22.4	-37.4	9.8	-5.4
1992	-1.3	-13.8	-29.6	-18.0	-21.8	-26.9	-49.9	-32.2	-73.4	-5.4	-0.2	26.6
1993	-0.3	-8.8	7.4	20.0	-12.8	10.1	18.1	-4.2	-15.4	17.6	5.8	34.6
1994	25.7	29.2	22.4	36.0	48.2	0.1	38.1	-2.2	-12.4	51.6	42.8	15.6
1995	36.7	-8.8	22.4	55.0	54.2	92.1	24.1	1.8	-30.4	98.6	12.8	28.6
mean	**38.3**	**51.8**	**88.6**	**116.0**	**129.8**	**104.9**	**48.9**	**48.2**	**58.4**	**58.4**	**52.2**	**37.4**
sd	**20.6**	**27.0**	**36.0**	**41.5**	**35.4**	**36.5**	**21.4**	**21.2**	**31.7**	**32.2**	**23.8**	**20.5**

MONTHLY ANOMALIES 21°N, 107°W

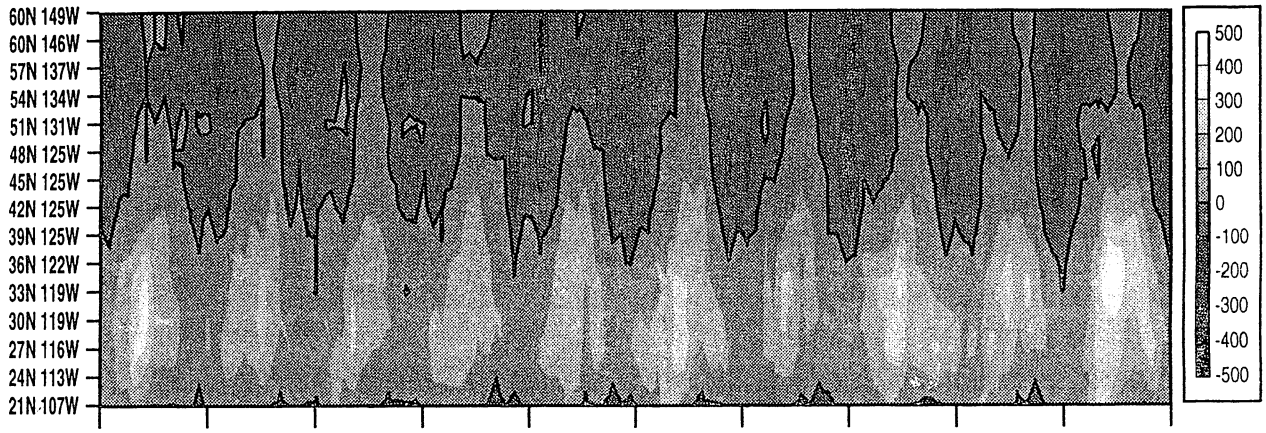
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1946	-17.3	-58.8	-117.1	-200.2	-195.2	-141.2	-40.3	-32.6	-27.8	-23.8	-17.8	-55.2
1947	-32.3	-53.8	-143.1	-166.2	-245.2	-153.2	-37.3	-32.6	-42.8	-21.8	-28.8	-38.2
1948	-55.3	-69.8	-47.1	-169.2	-195.2	-125.2	-38.3	-30.6	-35.8	-37.8	-38.8	-39.2
1949	-42.3	-80.8	-139.1	-173.2	-233.2	-161.2	-38.3	-33.6	-59.8	-22.8	-55.8	-26.2
1950	-38.3	-74.8	-142.1	-191.2	-180.2	-159.2	-56.3	-27.6	-24.8	-66.8	-38.8	-50.2
1951	-33.3	-47.8	-123.1	-72.2	-155.2	-118.2	-38.3	-51.6	-36.8	-27.8	-29.8	-23.2
1952	-49.3	-78.8	-82.1	-181.2	-230.2	-170.2	-53.3	-32.6	-56.8	-54.8	-19.8	-1.2
1953	-40.3	-79.8	-118.1	-142.2	-148.2	-153.2	-38.3	-36.6	-58.8	-32.8	-28.8	-4.2
1954	-27.3	-70.8	-59.1	-185.2	-197.2	-157.2	-47.3	-31.6	-86.8	-23.8	-22.8	-24.2
1955	-0.3	-39.8	-74.1	16.8	-51.2	-102.2	-39.3	-6.6	-25.8	-16.8	-8.8	-26.2
1956	-44.3	33.2	-93.1	-33.2	-170.2	-145.2	-30.3	-16.6	-43.8	-22.8	-30.8	-26.2
1957	-43.3	-71.8	-40.1	-59.2	-40.2	-64.2	-31.3	-28.6	-26.8	-20.8	21.2	-41.2
1958	-49.3	-42.8	26.9	2.8	-207.2	-121.2	-36.3	-7.6	-52.8	-24.8	-28.8	-33.2
1959	-22.3	-43.8	-55.1	-101.2	-21.2	-92.2	-0.3	2.4	-10.8	-8.8	-22.8	-25.2
1960	-8.3	89.2	-15.1	-164.2	-185.2	-163.2	-39.3	-26.6	-72.8	-24.8	-29.8	-21.2
1961	-46.3	-69.8	-61.1	-180.2	-208.2	-151.2	-42.3	-34.6	-35.8	-36.8	-18.8	-18.2
1962	-31.3	-62.8	-83.1	-209.2	-178.2	-133.2	-34.3	-32.6	-50.8	-20.8	-27.8	-15.2
1963	-18.3	-69.8	-100.1	-97.2	-215.2	-125.2	-37.3	-24.6	-28.8	-40.8	-13.8	-23.2
1964	9.7	5.2	8.9	-66.2	-176.2	-108.2	-35.3	-21.6	-18.8	-22.8	6.2	-18.2
1965	-31.3	-62.8	-104.1	-172.2	-185.2	-120.2	-28.3	-32.6	-22.8	-25.8	-22.8	-30.2
1966	-42.3	-63.8	-158.1	-206.2	-240.2	-135.2	-7.3	-27.6	-22.8	-22.8	-31.8	-9.2
1967	-18.3	-66.8	-123.1	-2.2	-166.2	-123.2	-27.3	-42.6	-15.8	-29.8	-32.8	-22.2
1968	-53.3	-69.8	-131.1	-28.2	-142.2	-102.2	-37.3	-30.6	-25.8	-23.8	-3.8	-17.2
1969	-11.3	15.2	-68.1	-109.2	-170.2	1.8	-30.3	-36.6	-59.8	-14.8	-30.8	-7.2
1970	9.7	-63.8	-6.1	-7.2	-164.2	-112.2	-37.3	-30.6	-29.8	-3.8	-52.8	-24.2
1971	-7.3	-45.8	-124.1	-133.2	-140.2	-104.2	-30.3	-33.6	-29.8	-13.8	-7.8	19.8
1972	36.7	-1.8	-48.1	-102.2	-182.2	-73.2	-34.3	-33.6	-11.8	-22.8	6.2	-6.2
1973	-10.3	-35.8	-13.1	-103.2	-148.2	-87.2	-22.3	-22.6	2.2	-15.8	-12.8	0.8
1974	-18.3	-27.8	-95.1	-166.2	-131.2	-148.2	-34.3	-32.6	-20.8	-24.8	-26.8	4.8
1975	-30.3	-40.8	-135.1	-144.2	-156.2	-142.2	-36.3	-33.6	-30.8	-17.8	-3.8	-6.2
1976	-28.3	-54.8	-54.1	-94.2	-137.2	-134.2	-8.3	-28.6	-23.8	-7.8	-13.8	2.8
1977	33.7	4.2	53.9	-27.2	3.8	-36.2	31.7	14.4	54.2	23.2	21.2	25.8
1978	63.7	88.2	32.9	139.8	135.8	49.8	96.7	106.4	88.2	15.2	107.2	100.8
1979	103.7	131.2	188.9	183.8	276.8	193.8	173.7	113.4	65.2	90.2	10.2	-14.2
1980	-20.3	-28.8	35.9	3.8	73.8	33.8	29.7	51.4	79.2	7.2	0.2	-28.2
1981	-45.3	-29.8	67.9	-13.2	135.8	252.8	17.7	-0.6	17.2	9.2	13.2	8.8
1982	49.7	122.2	167.9	187.8	201.8	284.8	33.7	38.4	-2.8	53.2	-22.8	-23.2
1983	-36.3	25.2	115.9	142.8	142.8	177.8	-8.3	-0.6	-21.8	10.2	8.2	9.8
1984	-15.3	-3.8	26.9	136.8	-30.2	-29.2	-30.3	-3.6	-24.8	73.2	40.2	0.8
1985	-7.3	36.2	122.9	2.8	115.8	34.8	-10.3	25.4	-8.8	-14.8	26.2	1.8
1986	-42.3	49.2	-62.1	24.8	139.8	-19.2	-17.3	13.4	31.2	-17.8	8.2	3.8
1987	-6.3	-10.8	-8.1	-4.2	34.8	22.8	-12.3	-7.6	21.2	-20.8	-3.8	9.8
1988	-25.3	11.2	-27.1	41.8	67.8	-15.2	-10.3	-18.6	-1.8	-1.8	21.2	-4.2
1989	51.7	-20.8	4.9	8.8	120.8	151.8	31.7	-3.6	-18.8	6.2	5.2	-16.2
1990	33.7	49.2	58.9	77.8	119.8	0.8	-7.3	4.4	-13.8	-23.8	-23.8	-20.2
1991	-6.3	-29.8	18.9	-17.2	-1.2	-78.2	-20.3	-8.6	-18.8	-34.8	-32.8	-0.2
1992	-44.3	-43.8	88.9	-57.2	-52.2	20.8	-18.3	-4.6	-48.8	2.2	7.2	9.8
1993	13.7	36.2	-41.1	-12.2	10.8	31.8	25.7	-32.6	-22.8	38.2	-10.8	-3.2
1994	-12.3	33.2	21.9	-17.2	103.8	-51.2	26.7	-4.6	1.2	9.2	34.2	68.8
1995	7.7	-22.8	-17.1	13.8	99.8	33.8	-11.3	-15.6	-19.8	5.2	-26.8	-16.2
mean	**49.3**	**87.8**	**176.1**	**219.2**	**256.2**	**170.2**	**38.3**	**32.6**	**24.8**	**23.8**	**31.8**	**32.2**
s.d.	**38.6**	**55.0**	**90.5**	**101.3**	**142.6**	**124.8**	**48.1**	**41.2**	**37.3**	**31.5**	**31.2**	**25.2**

APPENDIX C - MONTHLY UPWELLING INDICES, ANOMALIES AND STANDARDIZED ANOMALIES

The following five pages contain contours of the monthly upwelling indices, the monthly anomalies, and the standard anomalies for each calendar month. The data are contoured with time (in months) as the abscissa and latitude as the ordinate. The anomalies are relative to the 25-year mean of the monthly values in each month for the period 1967–91, and the standard anomalies are the anomalies divided by the standard deviation for the calendar month. The monthly values are shaded, with darker shading representing negative (downwelling) indices. The contour interval for the monthly values is 100 cubic meters per second per 100 m of coastline. Negative anomalies are shaded. The contour interval for the anomalies is 50 cubic meters per second per 100 m of coastline. Monthly standardized anomalies greater than one, that is anomalies greater than one standard deviation from the 25-year mean, are denoted with light shading. Monthly standardized anomalies less than -1 are denoted with dark shading. The data are broken into five ten-year periods for ease of presentation.

The units are metric tons per second per 100 m of coastline (or equivalently cubic meters per second per 100 meters of coastline). These units may be thought of as the average amount (in 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 and the previous three related NOAA Technical Memoranda, these indices should be considered as indicative of short-term relative fluctuations at a location rather than as quantitative measures of absolute magnitude.

MONTHLY UPWELLING INDEX



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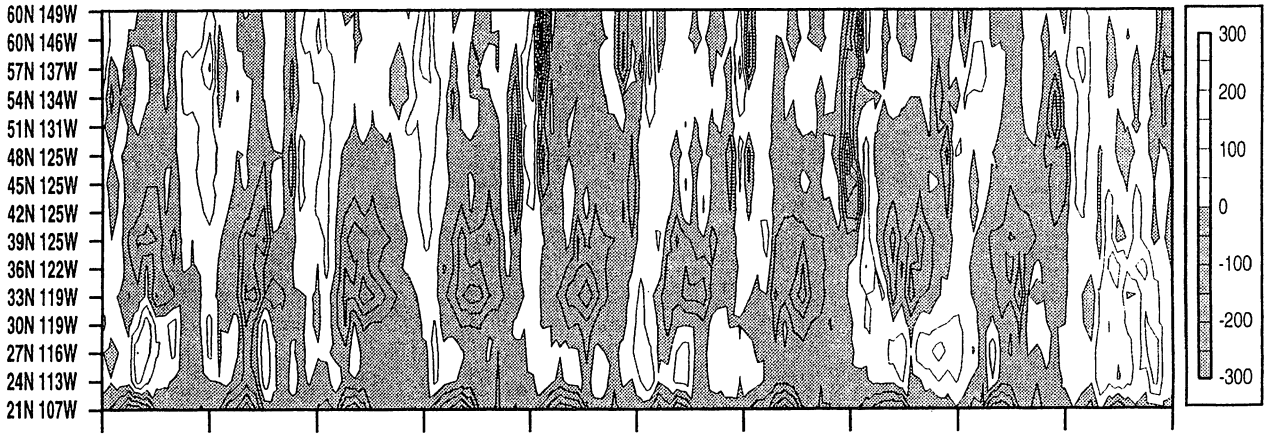
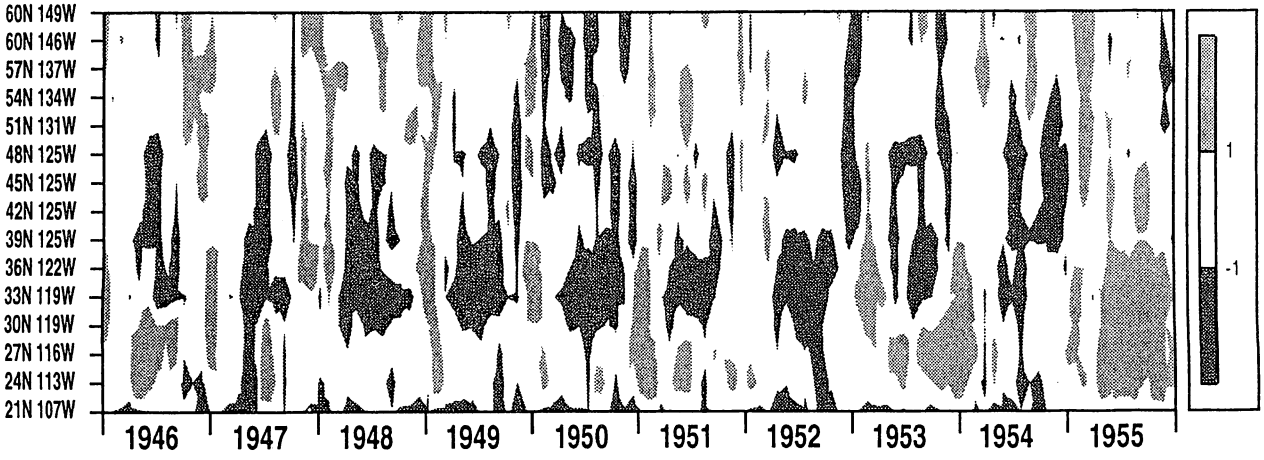
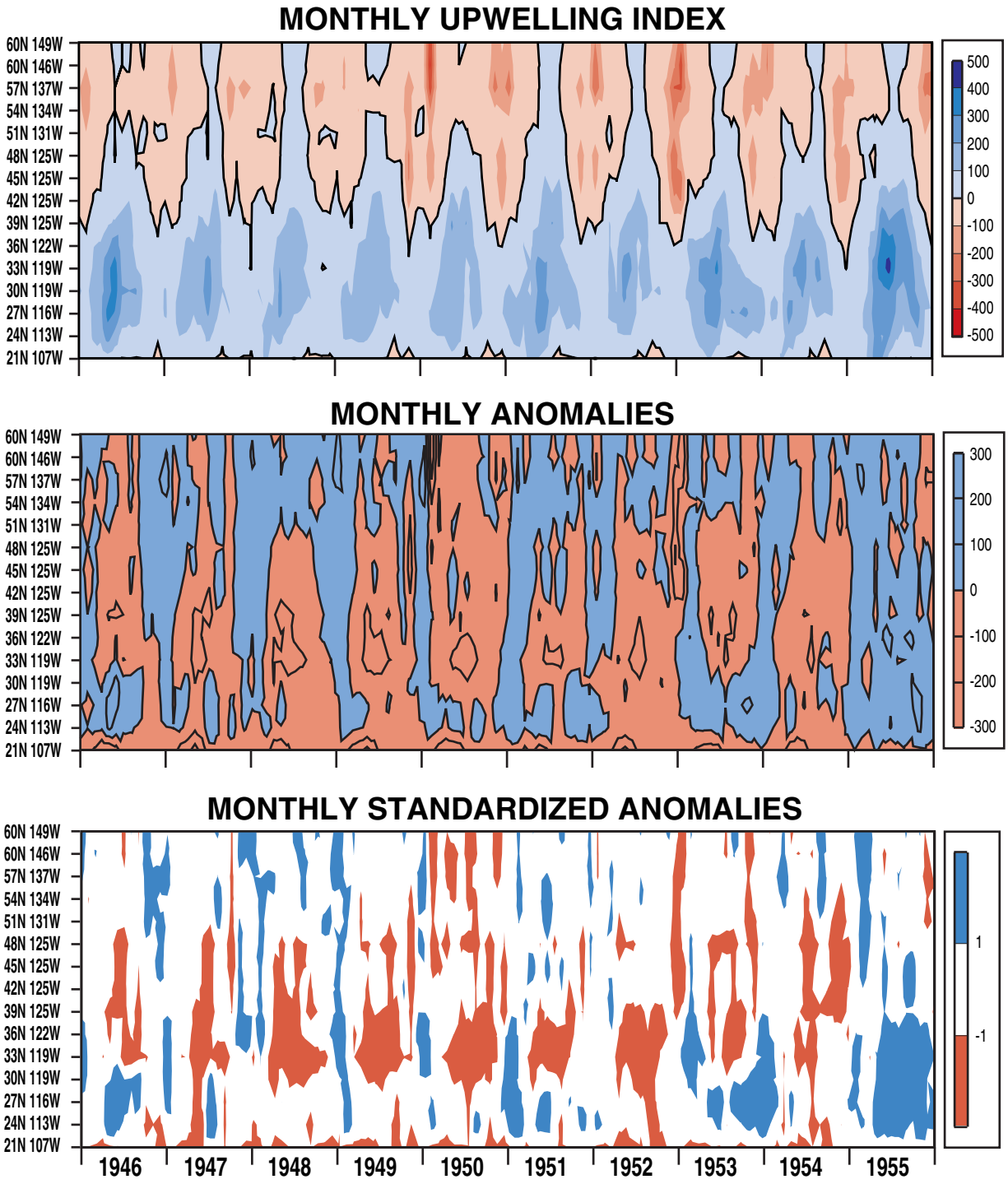


MONTHLY STANDARDIZED ANOMALIES

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45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
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MONTHLY ANOMALIES
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60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
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MONTHLY STANDARDIZED ANOMALIES
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39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
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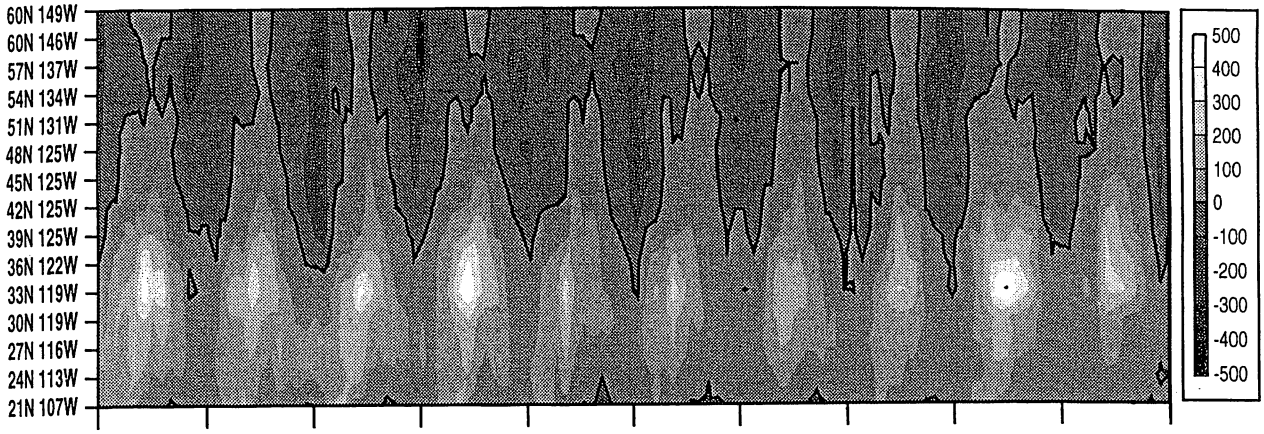
1955

MONTHLY UPWELLING INDEX



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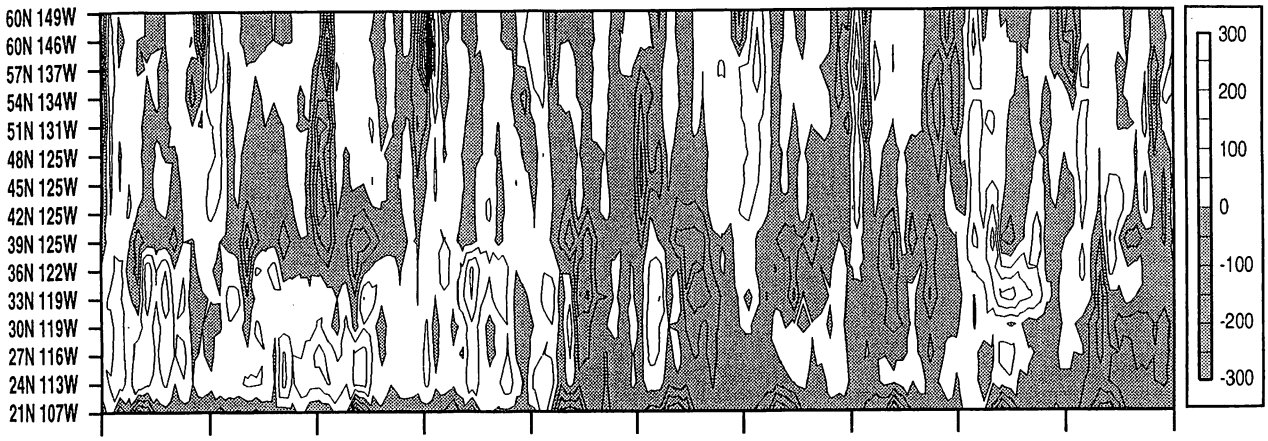
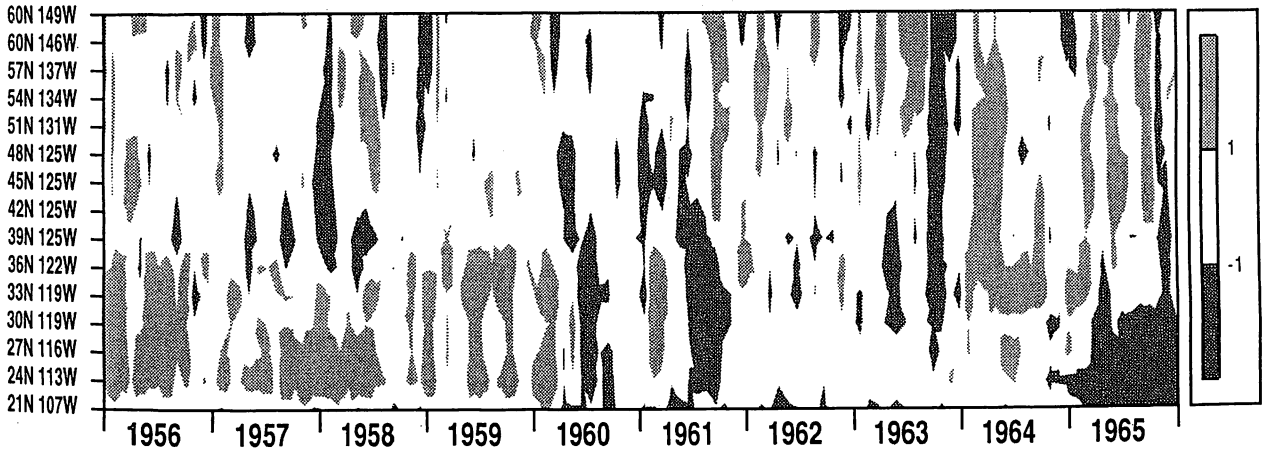
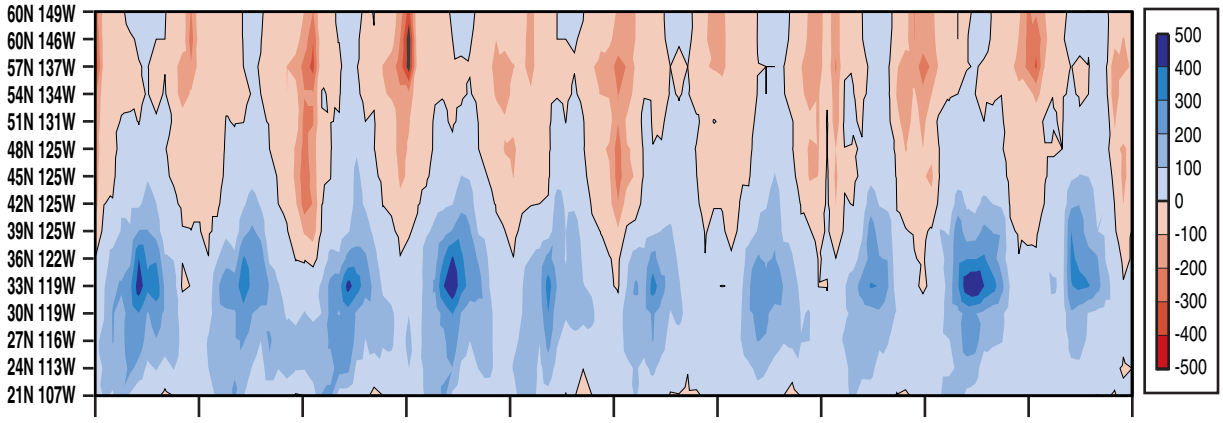


MONTHLY STANDARDIZED ANOMALIES



MONTHLY UPWELLING INDEX



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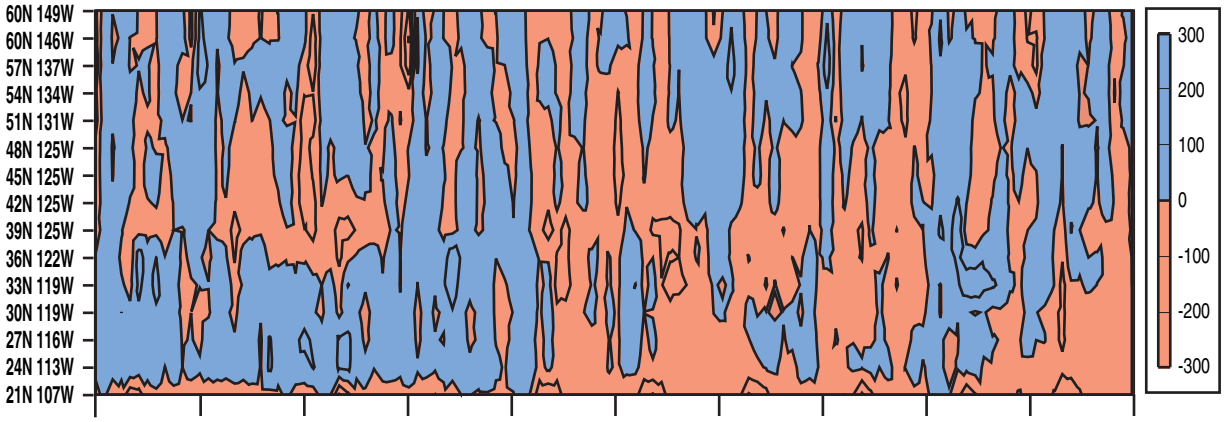

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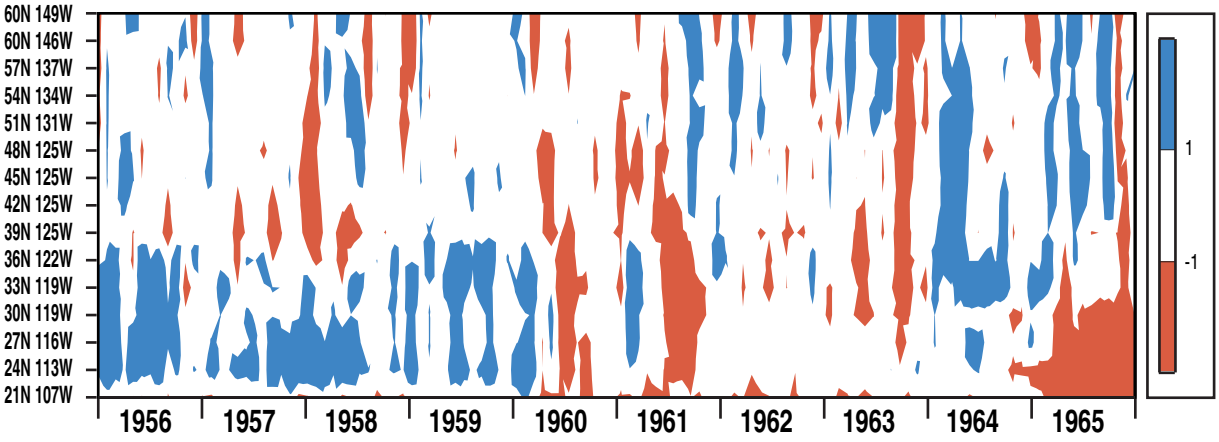

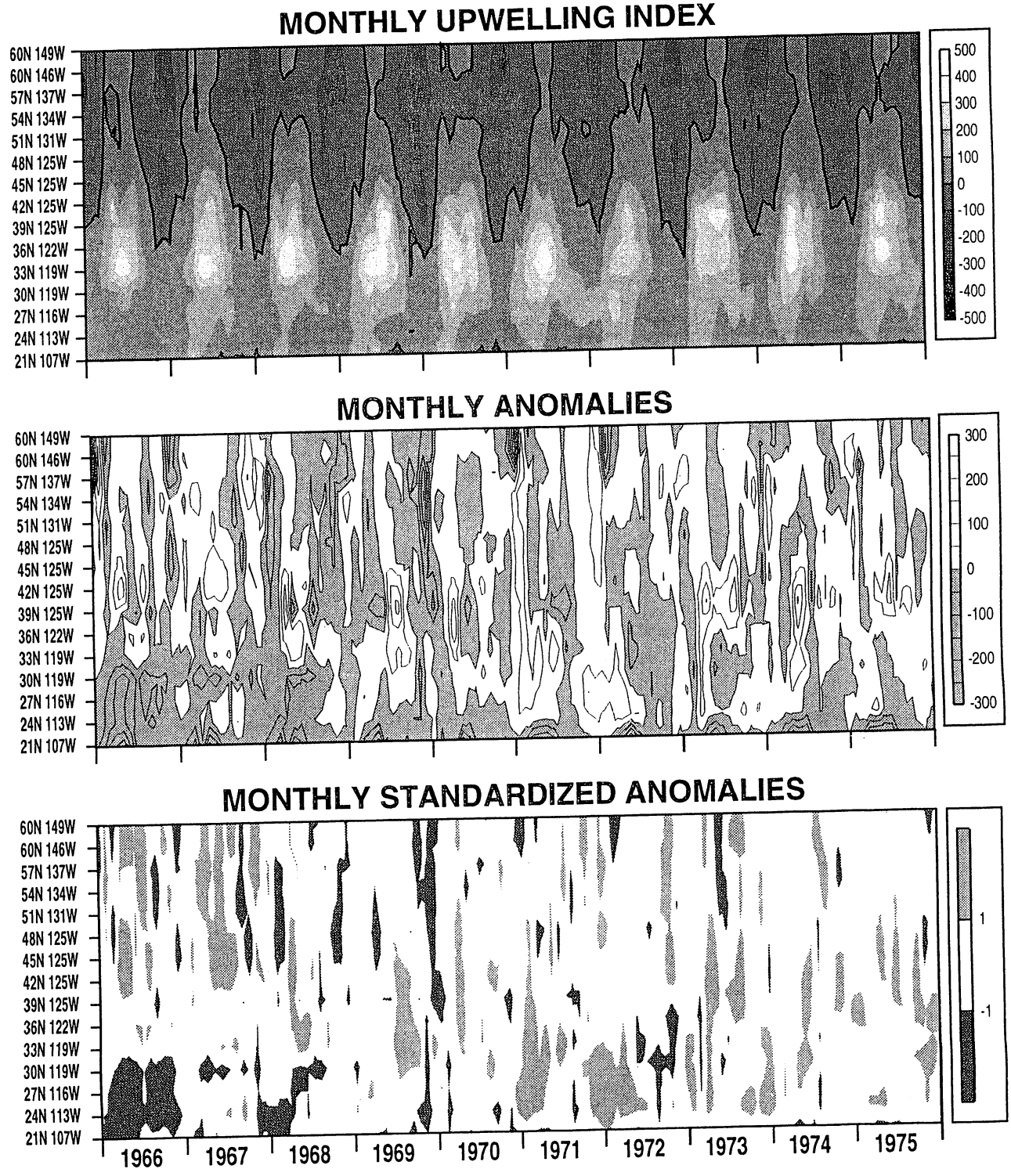
MONTHLY UPWELLING INDEX
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57N 137W
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45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
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MONTHLY ANOMALIES
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MONTHLY STANDARDIZED ANOMALIES
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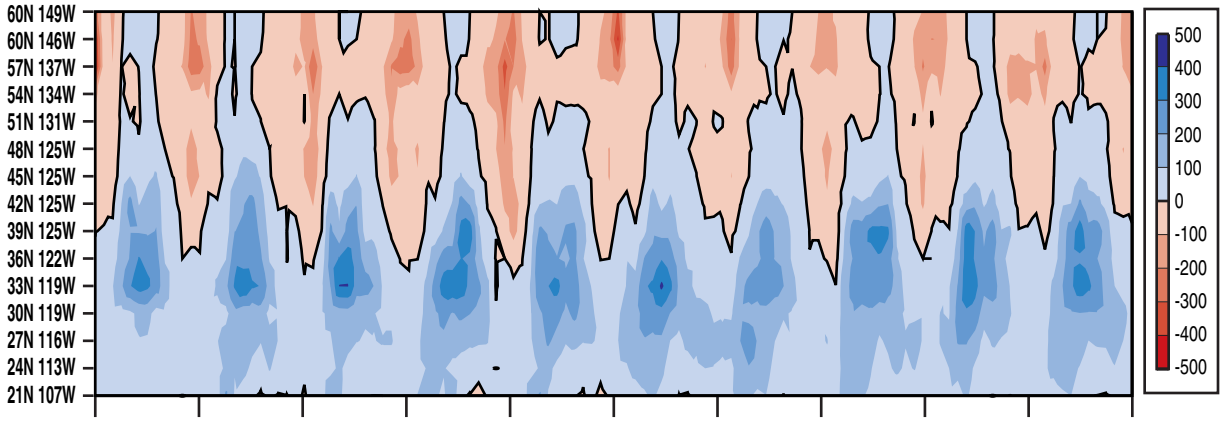
MONTHLY UPWELLING INDEX



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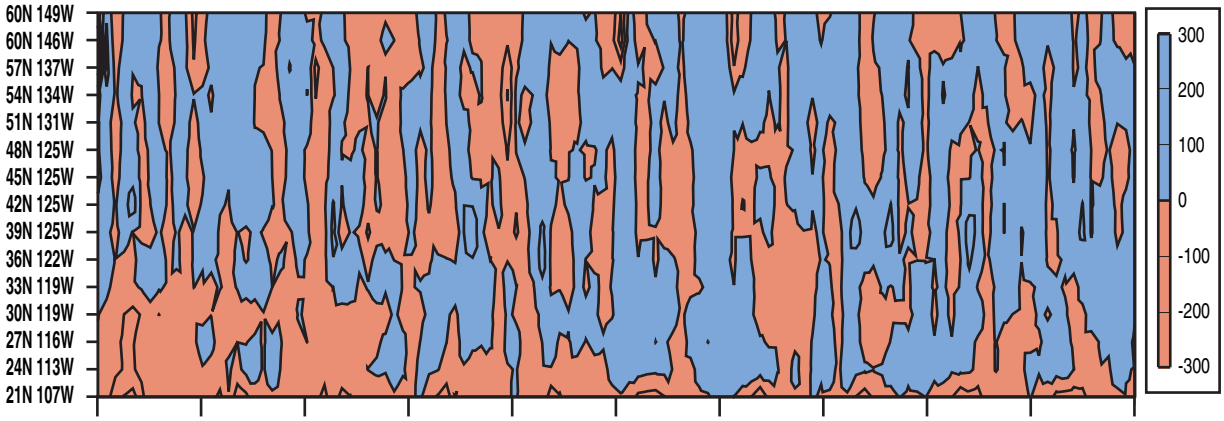

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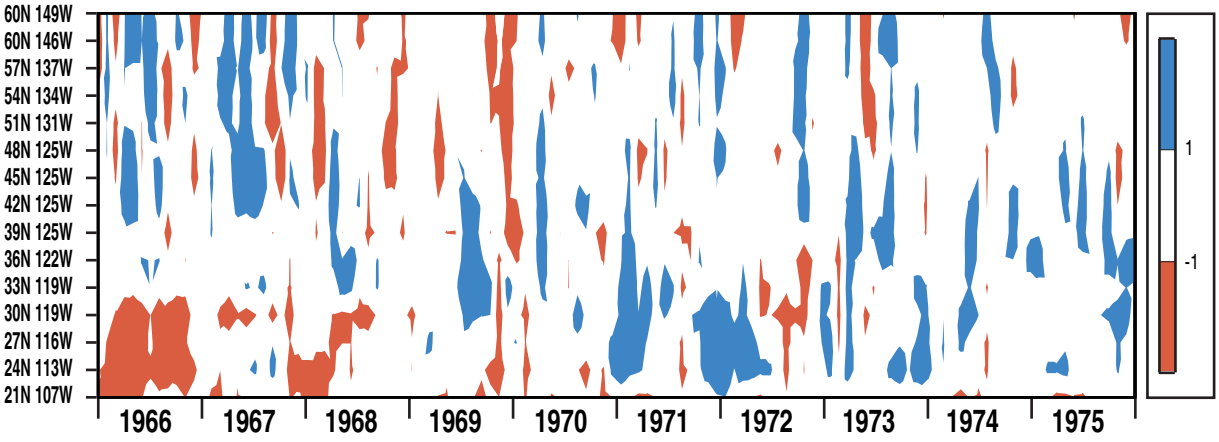
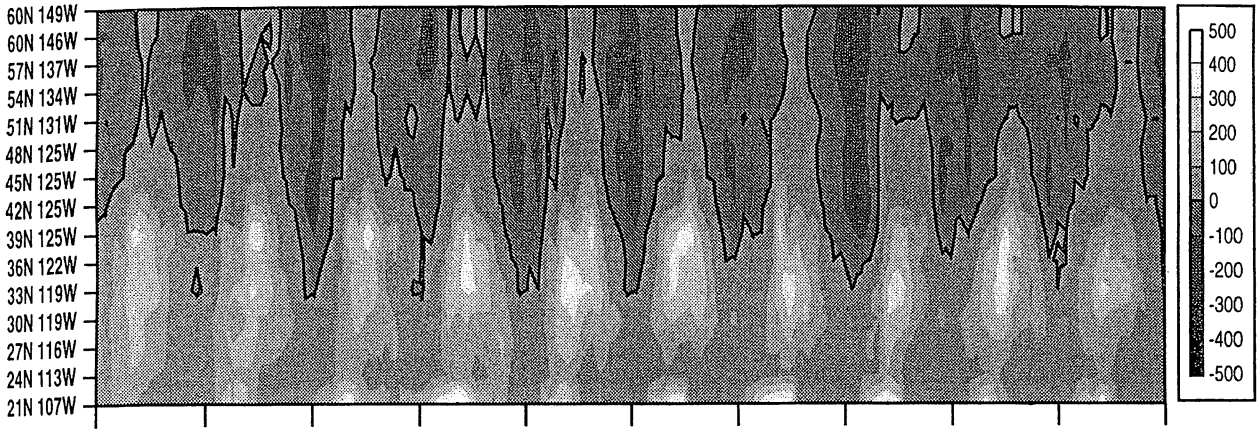
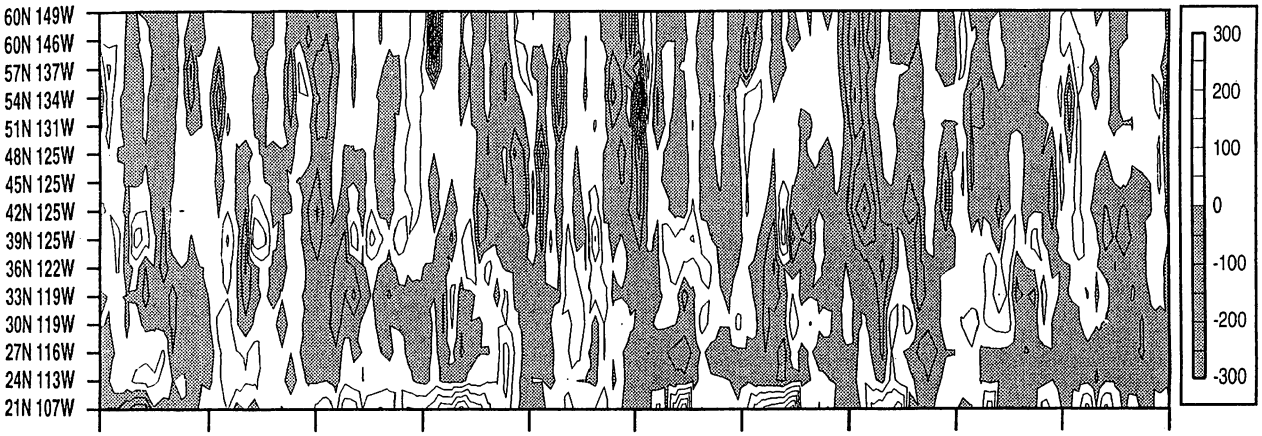


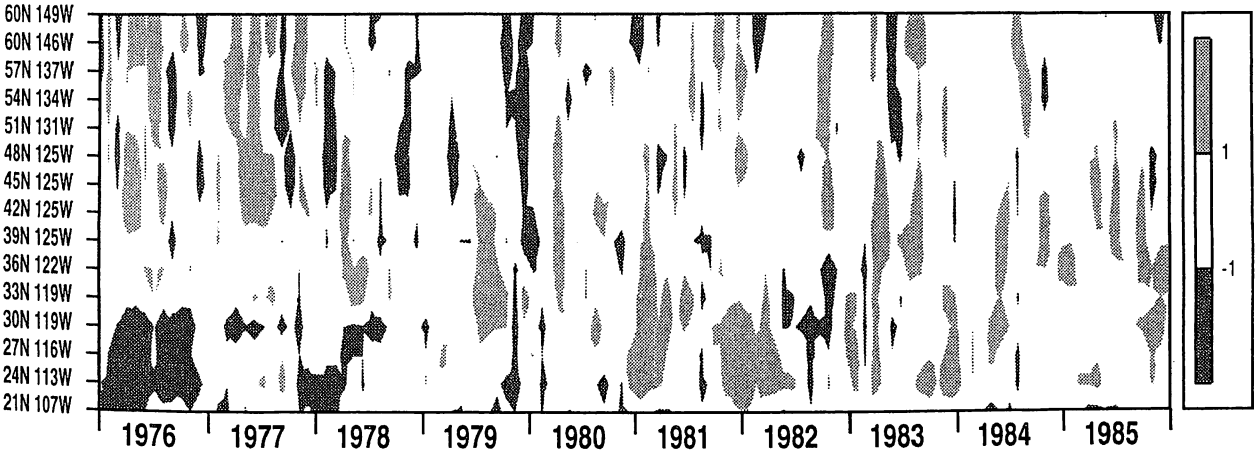
MONTHLY UPWELLING INDEX

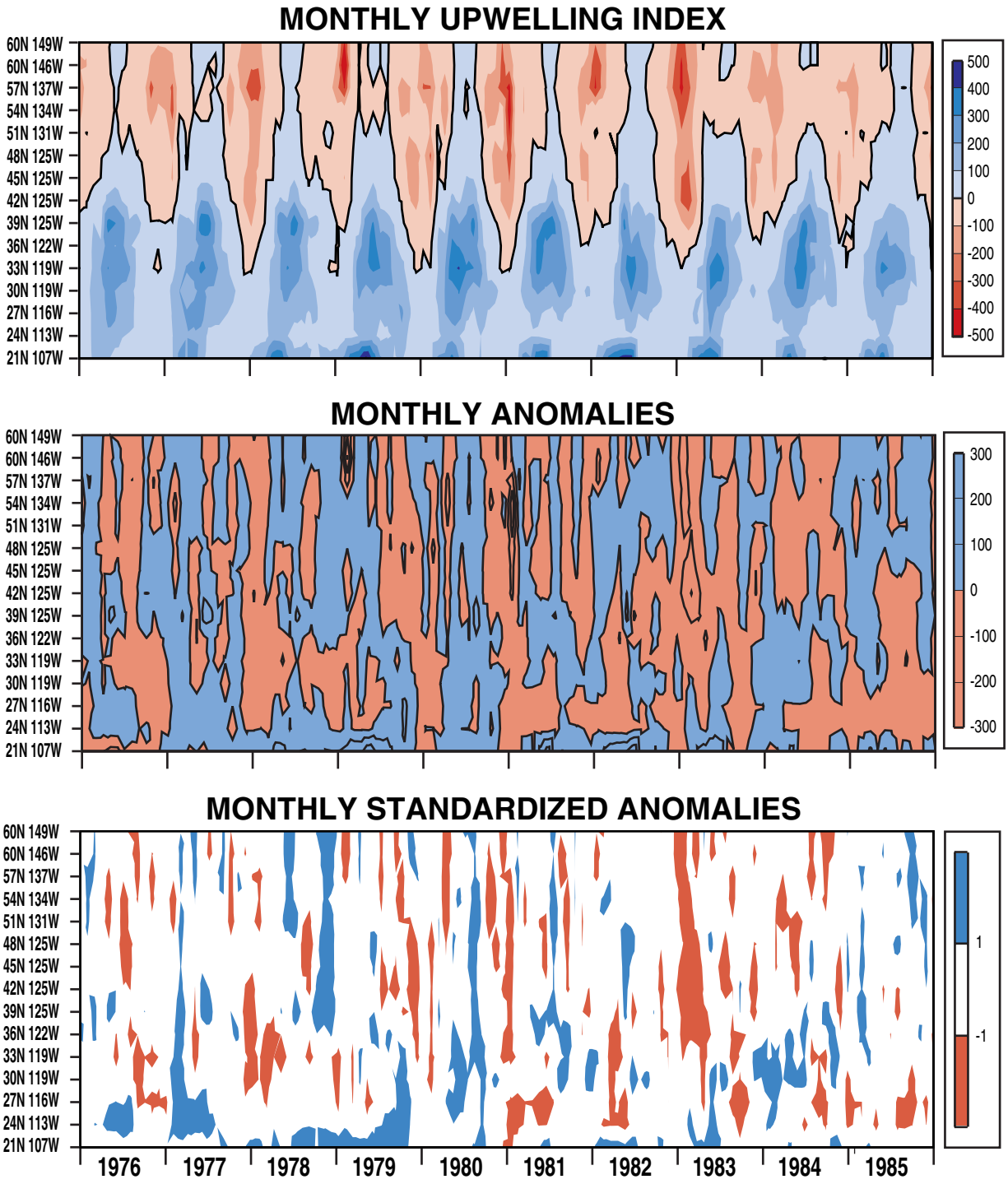


MONTHLY ANOMALIES

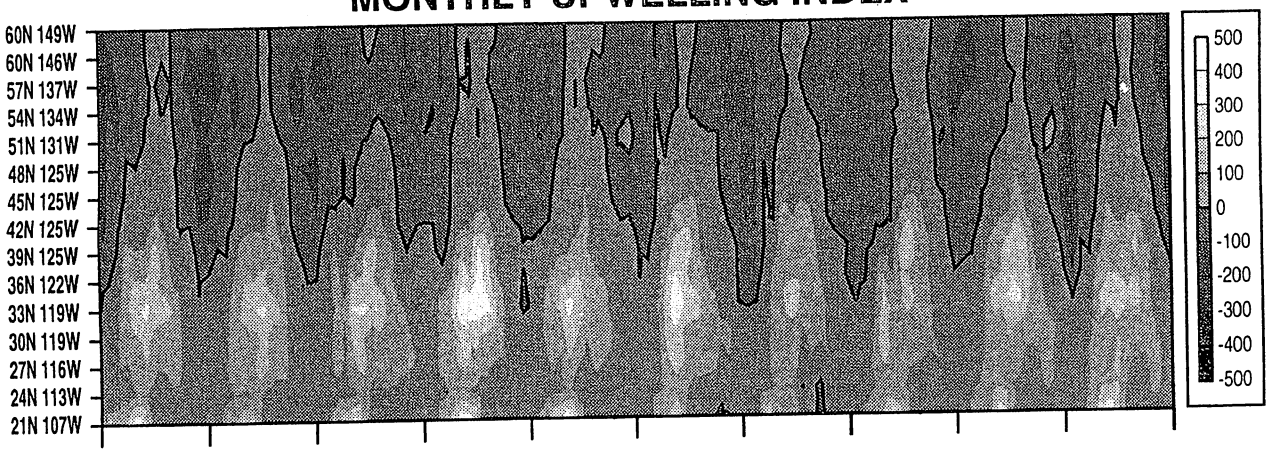


MONTHLY STANDARDIZED ANOMALIES

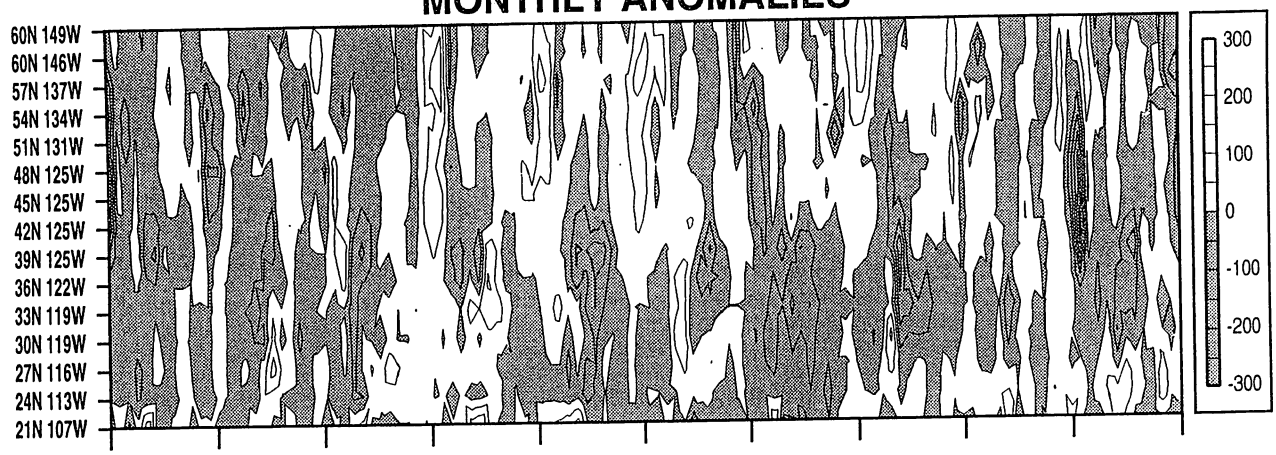



MONTHLY UPWELLING INDEX
60N 149W
60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
500
400
300
200
100
0
-100
-200
-300
-400
-500
MONTHLY ANOMALIES
60N 149W
60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
300
200
100
0
-100
-200
-300
MONTHLY STANDARDIZED ANOMALIES
60N 149W
60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
1
-1
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985

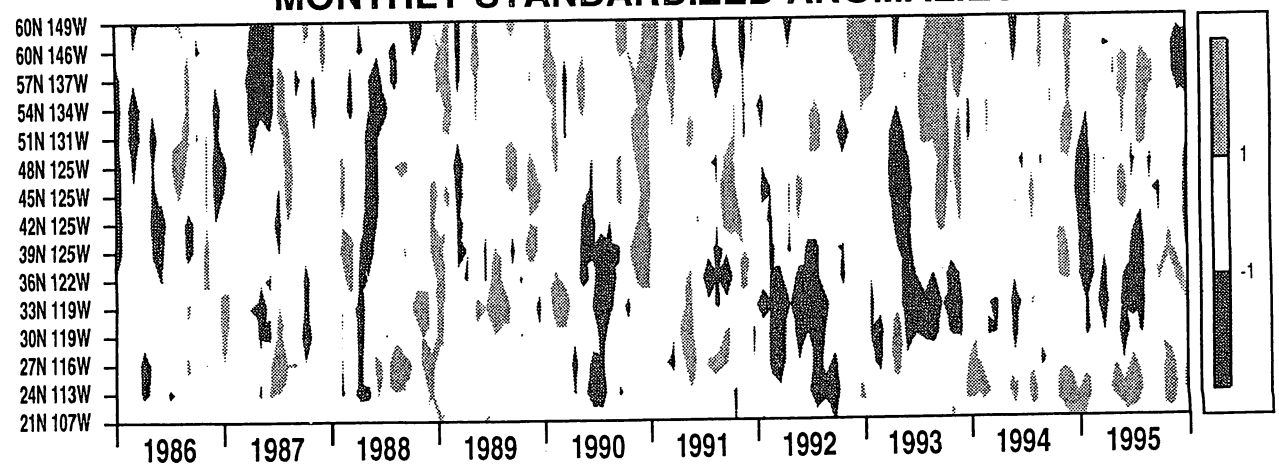
MONTHLY UPWELLING INDEX

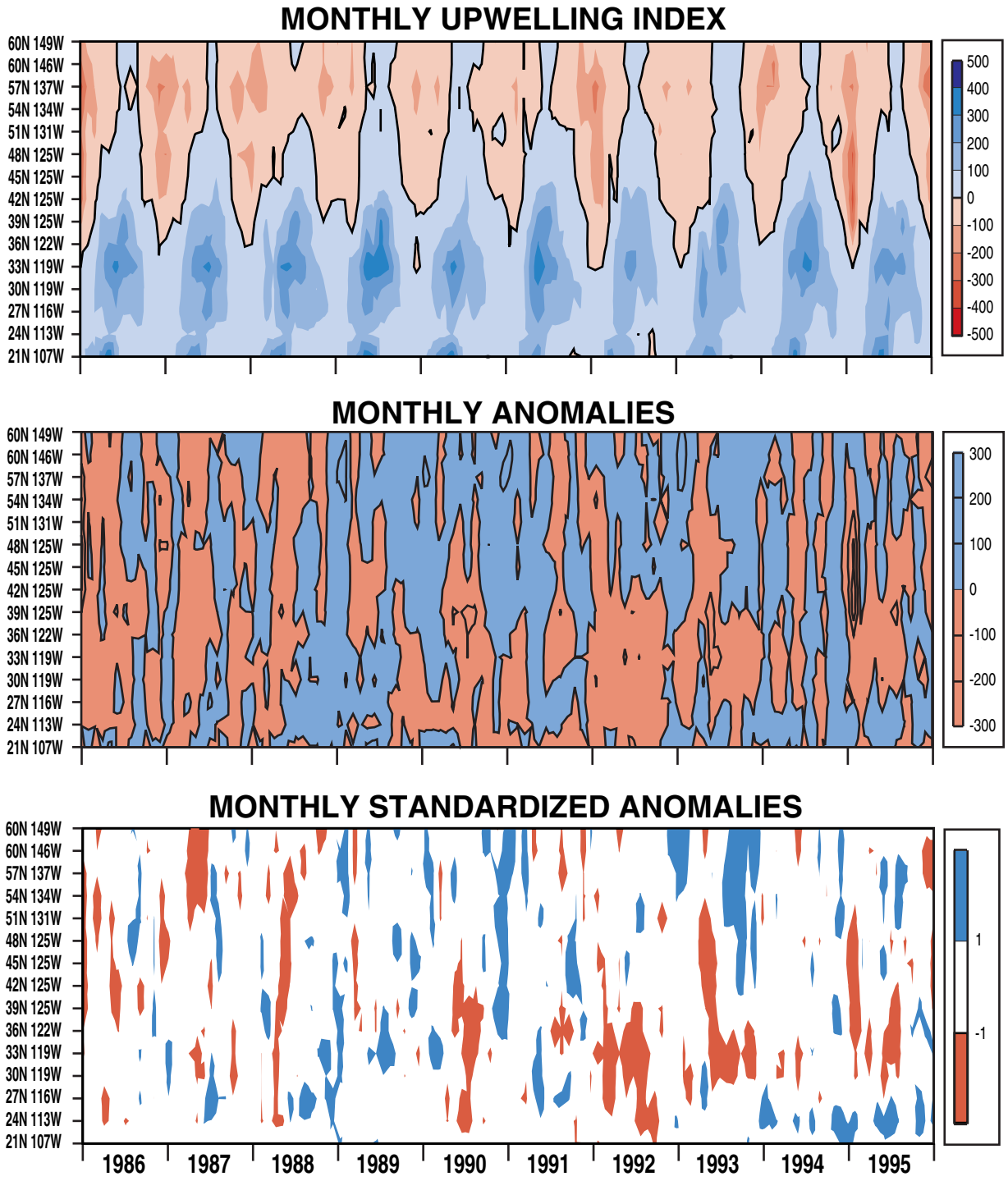


MONTHLY ANOMALIES



MONTHLY STANDARDIZED ANOMALIES

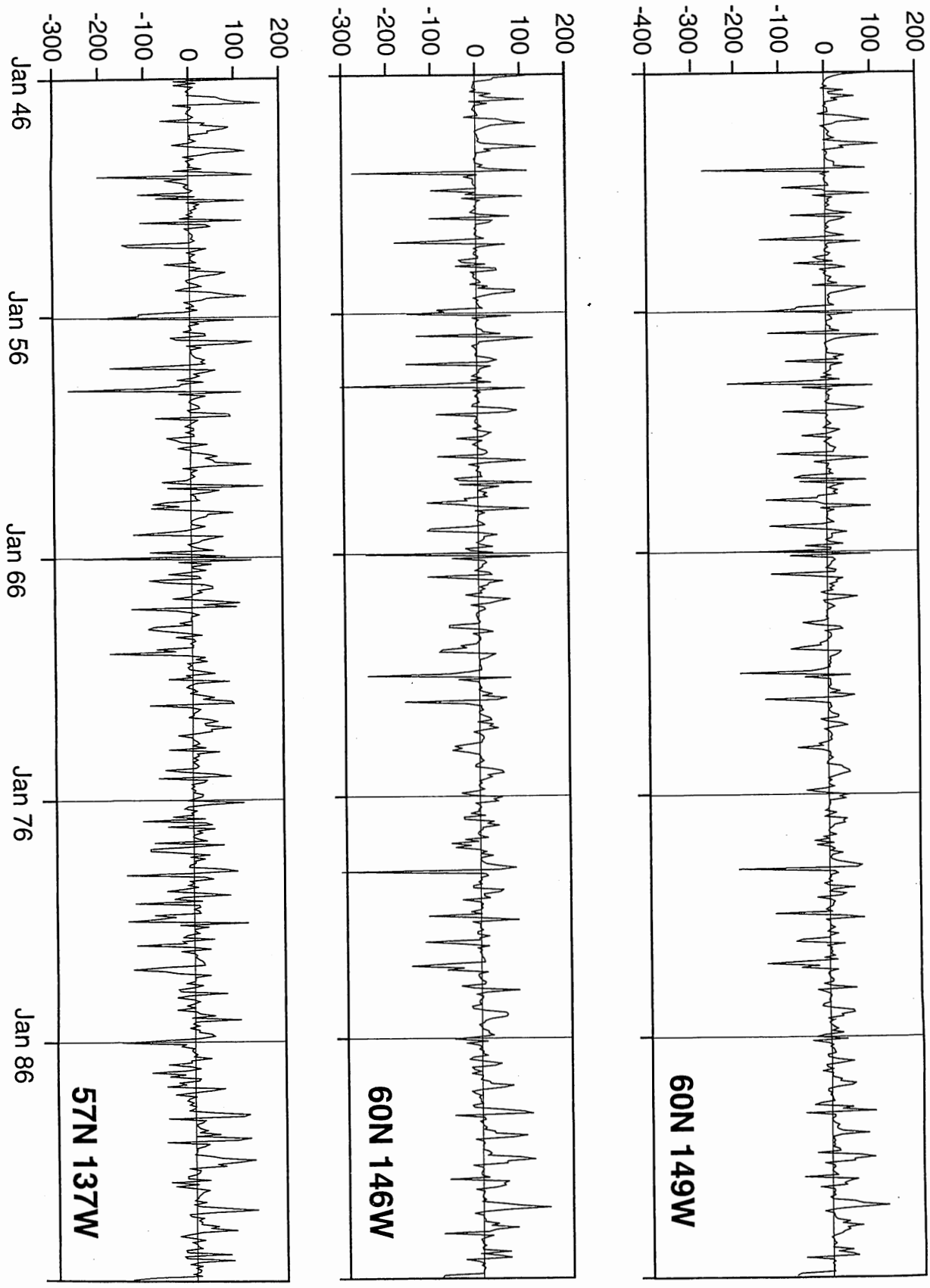


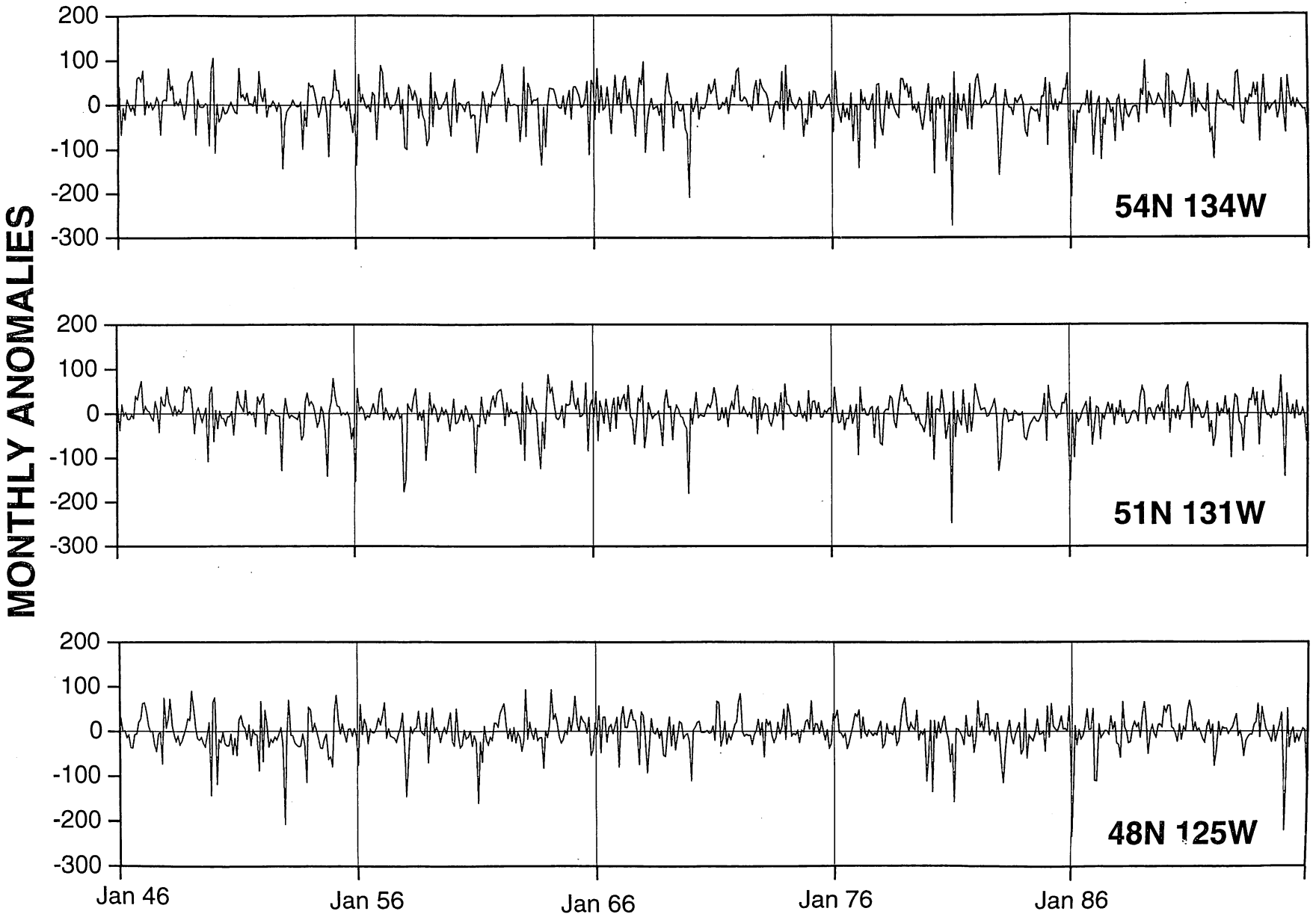

MONTHLY UPWELLING INDEX
60N 149W
60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
500
400
300
200
100
0
-100
-200
-300
-400
-500
MONTHLY ANOMALIES
60N 149W
60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
300
200
100
0
-100
-200
-300
MONTHLY STANDARDIZED ANOMALIES
60N 149W
60N 146W
57N 137W
54N 134W
51N 131W
48N 125W
45N 125W
42N 125W
39N 125W
36N 122W
33N 119W
30N 119W
27N 116W
24N 113W
21N 107W
1
-1
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995

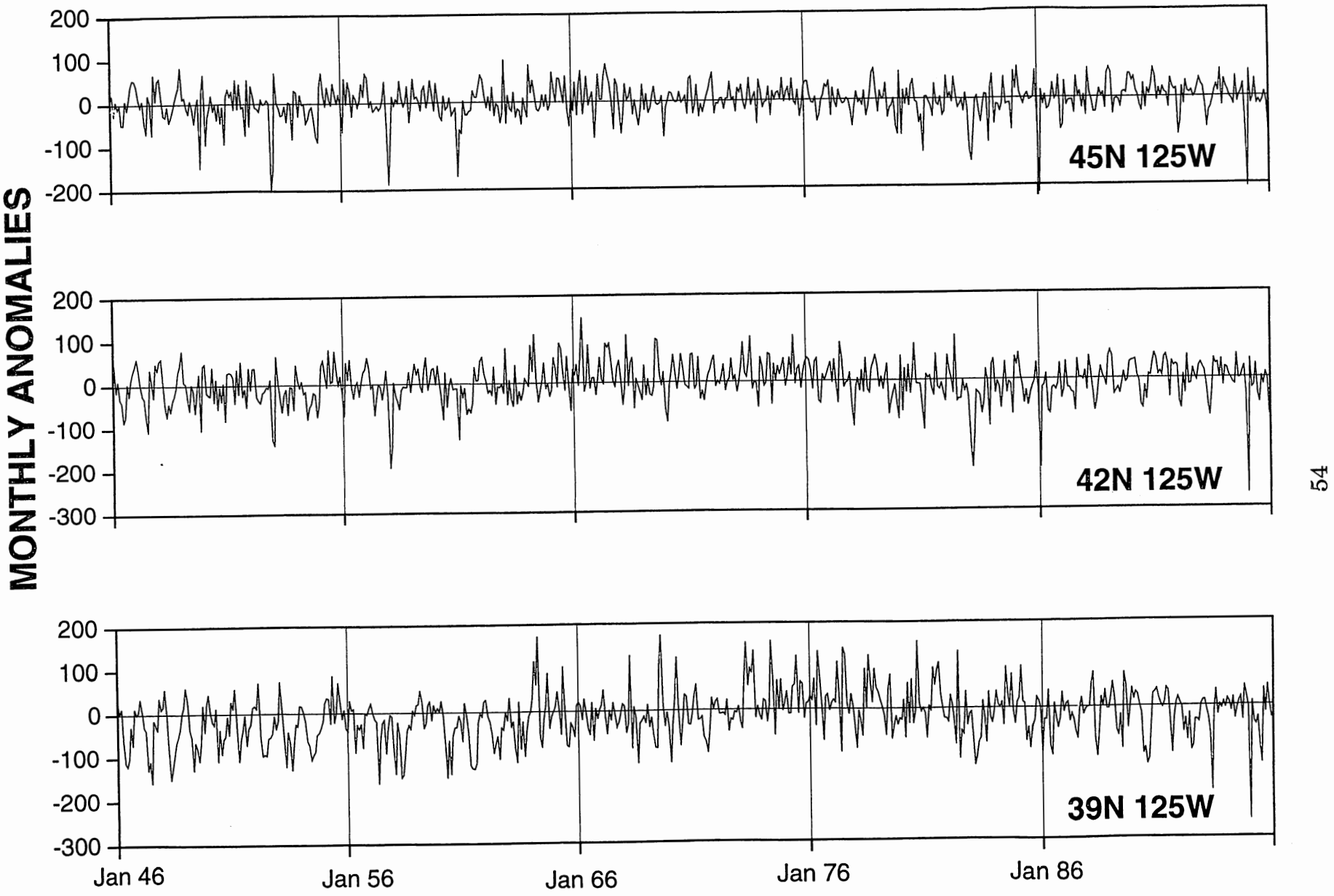
APPENDIX D - TIME SERIES OF MONTHLY ANOMALIES

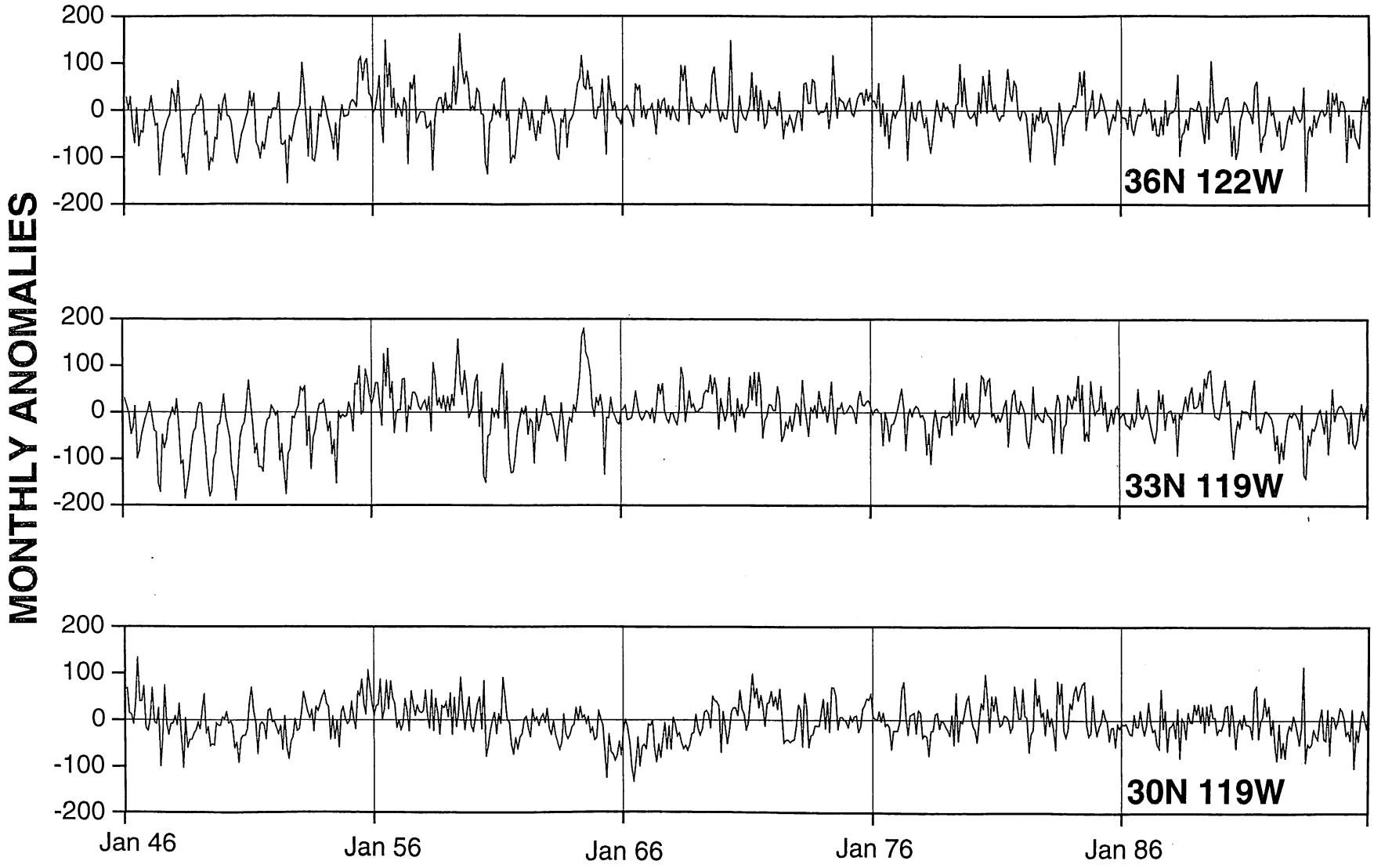
Anomalies of monthly upwelling indices, as given in Appendix B, are plotted as 50-year time series for each location. The anomalies are relative to the 25-year mean of the monthly values in each month for the period 1967–91. Three locations are plotted on each page, from north to south.

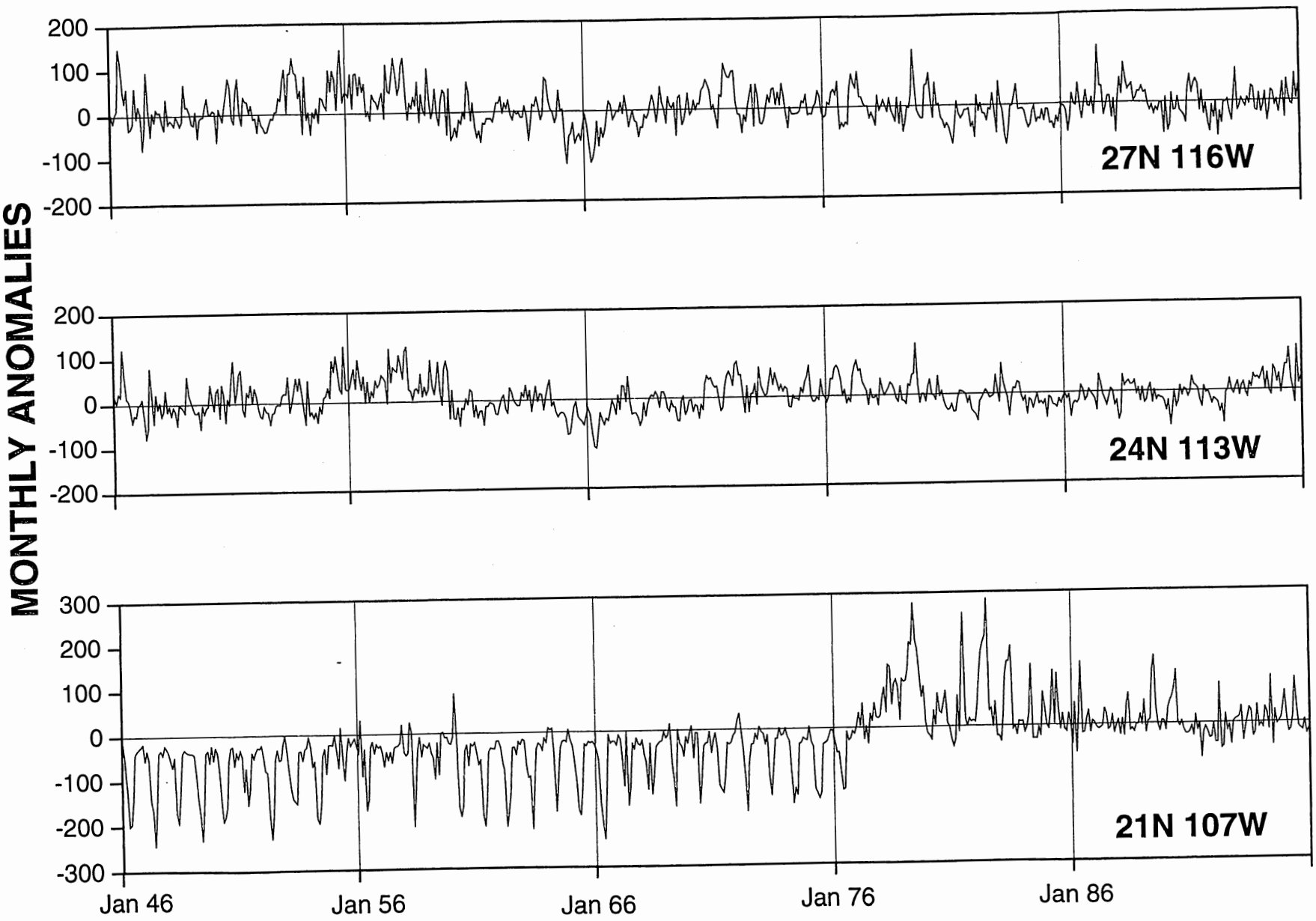
The units are metric tons per second per 100 m of coastline (or equivalently cubic meters per second per 100 meters of coastline). These units may be thought of as the average amount (in metric tons or cubic meters) of water upwelled through the bottom of the Ekman layer each second along each 100 m 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 and the previous three related NOAA Technical Memoranda, these indices should be considered as indicative of short-term relative fluctuations at a location rather than as quantitative measures of absolute magnitude.


MONTHLY ANOMALIES
200
100
0
-100
-200
-300
-400
60N 149W
200
100
0
-100
-200
-300
60N 146W
200
100
0
-100
-200
-300
57N 137W
Jan 46
Jan 56
Jan 66
Jan 76
Jan 86


MONTHLY ANOMALIES
200
100
0
-100
-200
-300
54N 134W
51N 131W
48N 125W
Jan 46
Jan 56
Jan 66
Jan 76
Jan 86


MONTHLY ANOMALIES
200
100
0
-100
-200
45N 125W
200
100
0
-100
-200
-300
42N 125W
200
100
0
-100
-200
-300
39N 125W
Jan 46
Jan 56
Jan 66
Jan 76
Jan 86


MONTHLY ANOMALIES
200
100
0
-100
-200
36N 122W
33N 119W
30N 119W
Jan 46
Jan 56
Jan 66
Jan 76
Jan 86


MONTHLY ANOMALIES
200
100
0
-100
-200
27N 116W
200
100
0
-100
-200
24N 113W
300
200
100
0
-100
-200
-300
21N 107W
Jan 46
Jan 56
Jan 66
Jan 76
Jan 86

APPENDIX E - DAILY AND WEEKLY UPWELLING INDICES, 1986–1995

The following 150 figures display daily and weekly mean of six-hourly upwelling index computations at the 15 standard positions along the North American west coast over the period 1986–95. The display for each location occupies ten consecutive pages, one page per year, and goes from north to south. These update the figures presented by Bakun (1973), Bakun (1975), and Mason and Bakun (1986).

The left column indicates the calendar date of the Sunday that begins a particular week. The seven columns to the right contain the daily averages progressing from Sunday to the following Saturday. Each daily value is the mean of the synoptic computations at 4AM, 10AM, 4PM, and 10PM Pacific Standard Time (12 and 18 UTC, and 00 and 06 UTC on following day). The average of the seven daily mean values in each week is listed in the final column.

The units are metric tons per second per 100 m of coastline (or equivalently cubic meters per second per 100 meters of coastline). These units may be thought of as the average amount (in 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 and the previous three related NOAA Technical Memoranda, these indices should be considered as indicative of short-term relative fluctuations at a location rather than as quantitative measures of absolute magnitude.

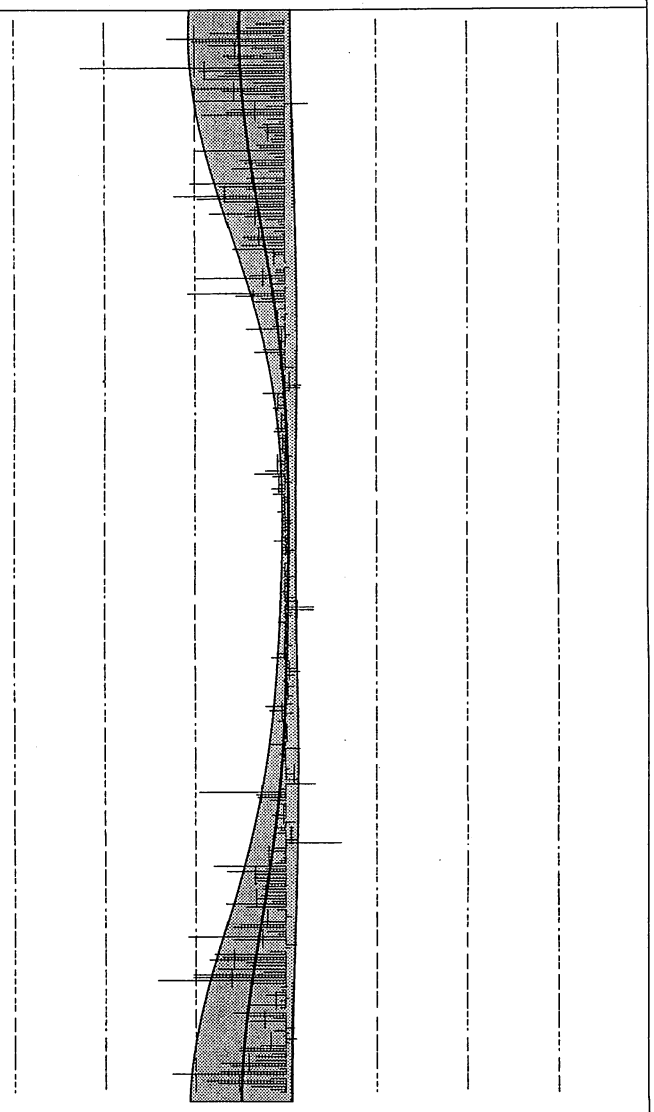
To the right of each weekly row of numerical values, the daily values are plotted as horizontal lines, and the weekly means are plotted as vertical bars. The bold curve superimposed of each figure is a biharmonic fit to the daily upwelling indices for the period 1967–91, estimated by a least-squares regression of the daily data to an annual and semiannual harmonic signal (Equation 5). The shaded area around the biharmonic curve denotes $\pm$ one standard error, calculated for each Julian Day.

NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-27	-61	-83	-113	-162	-25	-259	-104
12 JAN	-203	-166	-70	-23	-46	-134	-123	-109
19 JAN	-43	-113	-453	-187	-130	-145	-171	-177
26 JAN	-69	-53	-205	-137	-87	-29	-199	-111
2 FEB	53	-39	-119	-129	-181	-38	-10	-66
9 FEB	-47	-57	-42	-40	-20	-31	-27	-38
16 FEB	-63	-55	-202	-33	-21	-97	-88	-80
23 FEB	-62	-115	-35	2	-86	-19	-211	-75
2 MAR	-143	-85	-55	-247	-193	-132	-65	-131
9 MAR	-61	-77	-166	-88	-40	-11	-9	-64
16 MAR	-60	-22	-5	-92	-79	-38	-97	-56
23 MAR	-115	-40	-21	-1	-3	4	10	-24
30 MAR	-19	-21	-76	-195	-14	-28	8	-49
6 APR	-30	-217	-110	-51	-71	-2	-13	-70
13 APR	1	8	-6	-4	-1	-25	-88	-17
20 APR	-1	10	5	-6	-3	-1	-49	-6
27 APR	-67	-16	-8	0	-1	19	-1	-10
4 MAY	1	0	-7	7	34	33	10	11
11 MAY	-49	-10	-1	-5	-15	-26	7	-14
18 MAY	-4	-2	-8	6	-3	-20	-24	-8
25 MAY	-3	-10	-5	-3	1	-9	-5	-5
1 JUN	16	6	-12	-9	7	-42	-68	-15
8 JUN	-27	10	16	-9	-29	-16	-26	-12
15 JUN	7	6	3	1	2	-15	-5	0
22 JUN	14	15	16	6	6	2	5	9
29 JUN	-3	-25	0	12	25	14	2	3
6 JUL	2	8	3	-1	4	10	18	6
13 JUL	14	10	13	3	-5	-1	21	8
20 JUL	22	7	64	62	15	19	6	28
27 JUL	-14	1	6	5	1	-1	4	0
3 AUG	5	16	4	4	-17	-29	9	-1
10 AUG	2	5	23	33	20	1	-6	11
17 AUG	8	17	2	1	15	0	2	6
24 AUG	14	-44	-34	19	5	1	-17	-8
31 AUG	-2	6	4	3	3	4	6	3
7 SEP	-35	33	0	-13	-3	0	1	-2
14 SEP	2	9	3	18	5	26	66	18
21 SEP	-3	-11	-190	-66	-61	-34	-11	-54
28 SEP	-2	-2	-4	-29	-21	21	-2	-6
5 OCT	-28	-10	-18	0	23	124	4	14
12 OCT	-28	-23	-8	-4	-10	-25	-161	-37
19 OCT	-44	-130	-71	-70	-63	-38	-53	-67
26 OCT	-51	-40	-55	-63	-32	-131	-89	-66
2 NOV	-22	-1	13	-1	-47	-98	-119	-39
9 NOV	-39	-19	-214	-118	2	25	9	-51
16 NOV	-33	-158	-139	-167	-89	-80	-149	-116
23 NOV	-49	-203	-203	-281	-83	-11	-7	-120
30 NOV	-19	-42	7	-10	-78	-13	2	-22
7 DEC	-119	-90	-27	-78	-4	21	-24	-46
14 DEC	11	-5	23	6	-53	-102	-105	-32
21 DEC	-28	-67	-64	-143	-124	-12	-144	-83
28 DEC	-253	-32	-174	-150	-76	-33	-10	-104



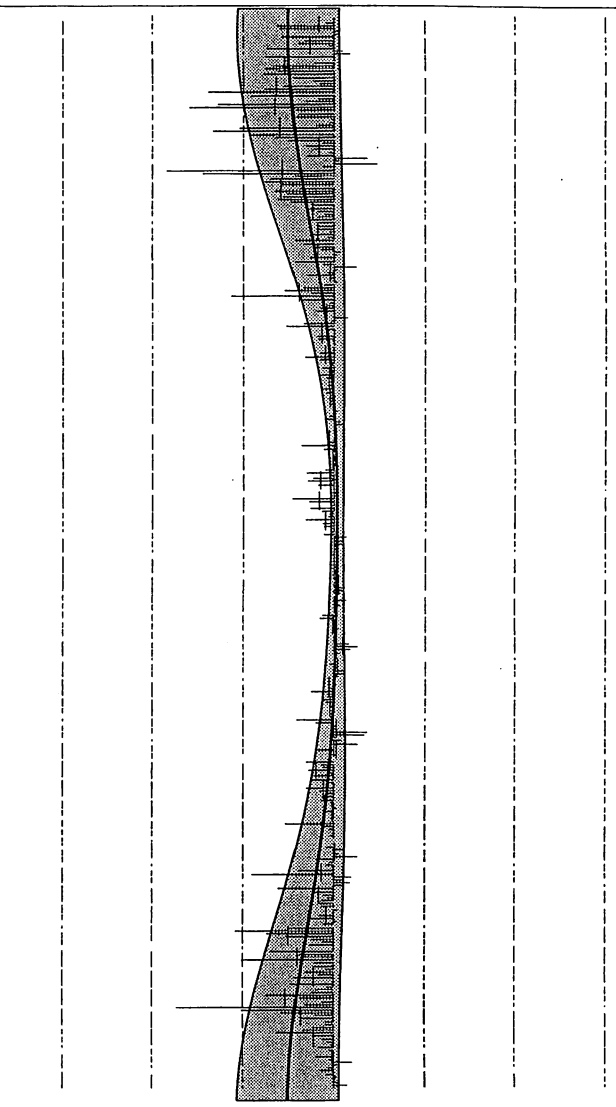
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	0	-1	-15	-122	-119	16	9	-33
11 JAN	-114	-62	-80	-10	-146	20	38	-51
18 JAN	-150	4	-41	-133	-153	-122	-155	-107
25 JAN	-89	-43	-33	-108	-153	-278	-183	-126
1 FEB	-33	-60	-254	-319	-84	-77	-80	-129
8 FEB	-4	-6	-39	-207	-265	-181	-125	-118
15 FEB	-99	-26	-61	-44	-9	-56	75	-32
22 FEB	14	97	-20	-368	-287	-84	-138	-112
1 MAR	-151	-112	-75	-130	-101	-110	-120	-114
8 MAR	-93	-44	-57	-36	-18	-31	-50	-47
15 MAR	-32	-33	-34	-11	-48	-12	-82	-36
22 MAR	-64	-39	-30	16	7	-51	-85	-35
29 MAR	-25	51	8	-16	-58	-10	11	-6
5 APR	-20	-67	-107	-49	-228	-68	-6	-78
12 APR	-15	-30	-34	2	32	-6	-66	-17
19 APR	-104	-18	1	-35	-32	-2	4	-27
26 APR	-5	-1	-30	-63	-30	-5	0	-19
3 MAY	-22	-11	-28	-16	2	2	-1	-11
10 MAY	-24	-16	4	-10	-5	-4	1	-8
17 MAY	10	8	-6	-16	16	17	2	4
24 MAY	10	2	8	3	-8	-70	-20	-11
31 MAY	4	2	-2	0	2	1	-18	-2
7 JUN	-60	-10	-45	-58	-34	-3	3	-30
14 JUN	3	4	-89	-55	-4	-50	-27	-31
21 JUN	-11	-12	-62	-23	-20	-2	0	-18
28 JUN	-21	30	24	17	3	5	1	8
5 JUL	-1	0	1	3	3	5	8	3
12 JUL	2	5	10	12	26	22	16	13
19 JUL	8	28	11	16	3	2	-24	6
26 JUL	-30	-3	1	5	12	2	0	-2
2 AUG	3	6	35	55	38	16	2	22
9 AUG	5	6	-6	7	28	27	11	11
16 AUG	3	3	6	-5	-48	-14	-13	-10
23 AUG	-21	-19	-5	0	3	-1	0	-6
30 AUG	-82	-38	7	9	75	68	5	6
6 SEP	18	55	1	-32	1	3	3	7
13 SEP	-60	-26	-22	-54	-7	-44	-49	-37
20 SEP	-8	4	-59	-31	-10	-24	-26	-22
27 SEP	-5	-2	11	-12	-5	-5	0	-2
4 OCT	-103	-22		-8	1	-5	0	-23
11 OCT	4	-14	24	14	54	-37	-7	5
18 OCT	-16	-2	-77	-178	40	22	37	-25
25 OCT	28	-122	-44	-22	-13	-22	-29	-32
1 NOV	-26	11	-3	-29	-54	10	-21	-16
8 NOV	-98	-216	-145	-102	-48	-23	-51	-98
15 NOV	4	-136	-73	-61	-202	-41	-44	-79
22 NOV	-17	-63	-32	-86	1	-89	-12	-43
29 NOV	-37	-45	-150	-74	-23	-62	-345	-105
6 DEC	-202	-113	-39	-72	-16	-16	-45	-72
13 DEC	-65	-123	-47	-23	-12	-6	-31	-44
20 DEC	-8	6	-38	-8	43	11	-10	-1
27 DEC	-29	-17	8	3	9	33	1	1

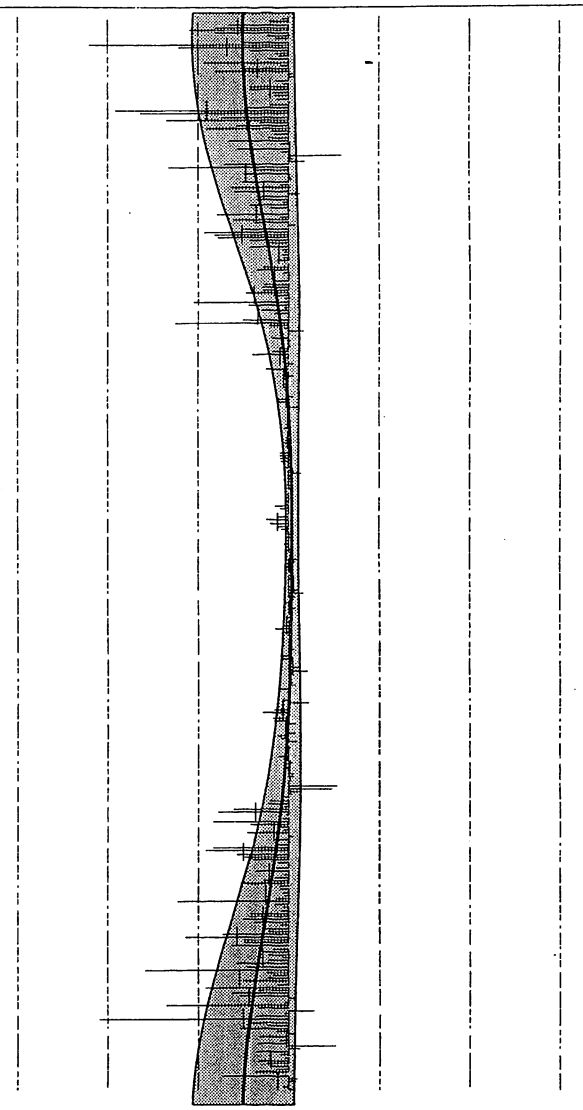


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-13	-39	-129	-160	-219	-159	-47	-109
10 JAN	-25	-101	-441	-240	-81	-28	-22	-134
17 JAN	-44	-186	-14	-97	-161	10	15	-68
24 JAN	-26	-9	-81	-84	-31	-32	-25	-41
31 JAN	4	-40	-91	-381	-326	-145	-269	-178
7 FEB	-63	-112	-180	-36	-30	-46	-129	-85
14 FEB	-16	3	-110	-12	117	11	39	4
21 FEB	-139	-261	-70	-95	6	11	-100	-93
28 FEB	-17	-127	-118	25	-59	-68	-10	-53
6 MAR	-82	-37	-1	-156	-18	-120	-74	-70
13 MAR	14	-97	-186	-161	-154	-85	-45	-102
20 MAR	-82	-12	-6	-12	-9	-24	-2	-21
27 MAR	-55	-69	-9	8	-2	-29	-55	-30
3 APR	-56	-57	-93	-31	-8	-210	-87	-77
10 APR	-9	-61	-30	1	-100	-248	-40	-69
17 APR	-10	34	3	-34	8	1	6	1
24 APR	-15	-34	-80	-10	0	9	-3	-19
1 MAY	-49	1	13	-10	-2	-6	-9	-9
8 MAY	-10	-2	12	-22	-21	-1	20	-3
15 MAY	1	2	0	-3	0	0	-10	-2
22 MAY	1	4	-4	-6	-8	-5	5	-2
29 MAY	-18	-18	-19	-16	2	-6	12	-9
5 JUN	28	9	5	10	11	7	2	10
12 JUN	-1	0	1	-3	-30	-17	-1	-7
19 JUN	-7	-23	-50	-41	-22	-16	-5	-23
26 JUN	6	4	0	-11	-1	3	4	1
3 JUL	8	18	16	-2	-4	1	3	6
10 JUL	7	4	2	2	8	24	36	12
17 JUL	16	1	-7	2	15	11	1	5
24 JUL	-2	1	7	-13	-29	-6	3	-6
31 JUL	2	11	8	7	12	5	-18	4
7 AUG	-15	-2	3	27	42	6	2	9
14 AUG	6	10	15	-21	-4	2	-2	1
21 AUG	-12	47	4	-33	-56	5	-34	-11
28 AUG	-32	14	-5	-2	15	-22	-16	-7
4 SEP	21	1	4	-11	-11	-20	-14	-4
11 SEP	9	0	-4	0	12	14	7	5
18 SEP	2	108	95	20	8	-8	-42	26
25 SEP	-45	-11	-121	-156	-3	-12	-166	-73
2 OCT	-84	-21	-9	-91	9	-30	6	-31
9 OCT	-28	-166	-182	-114	-95	-80	-25	-98
16 OCT	1	-26	-71	-11	-29	-53	-104	-42
23 OCT	-17	-17	-12	-7	-26	-244	-29	-50
30 OCT	-9	-16	-85	-89	-99	-77	-19	-56
6 NOV	-54	-46	-143	-227	-95	-97	-124	-112
13 NOV	-32	-62	-44	-12	-44	-110	-91	-56
20 NOV	-315	-47	-34	-47	-98	-23	-183	-106
27 NOV	-66	-124	-105	18	-7	-269	-65	-88
4 DEC	56	-11	-72	-418	-87	-47	-104	-97
11 DEC	-23	19	-63	-19	-67	104	26	-3
18 DEC	-72	-16	-6	-65	-47	-41	-25	-39
25 DEC	-72	-142	22	19	2	-13	15	-24



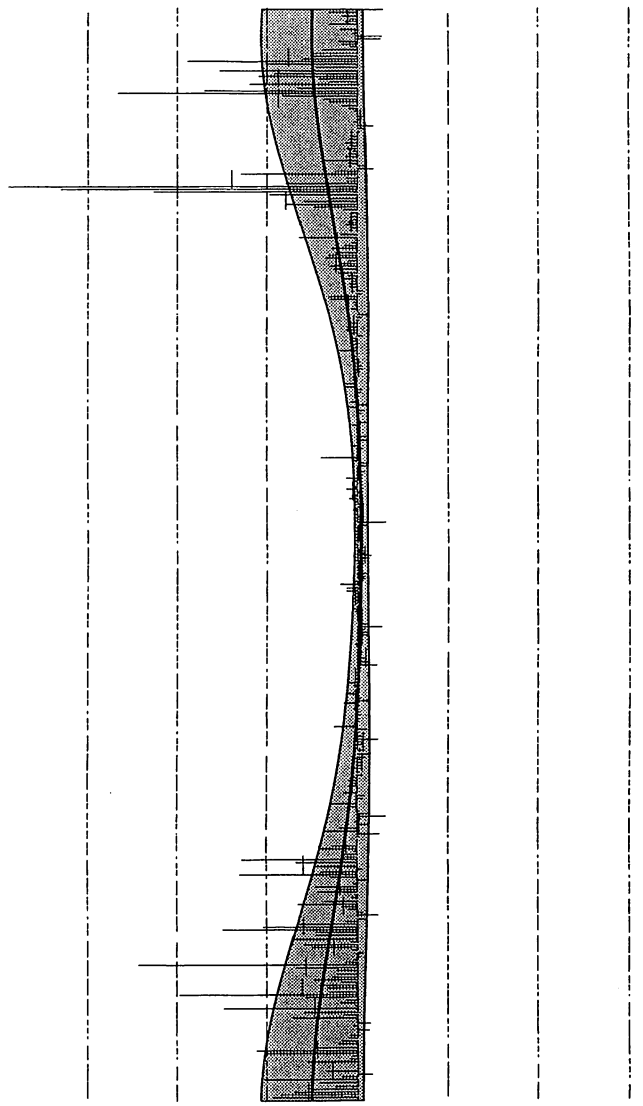
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	57	-63	-33	-14	-26	-59	-2	-20
8 JAN	-39	-11	54	51	-42	-33	-16	-5
15 JAN	-77	-102	-99	-121	-378	-201	-89	-152
22 JAN	-305	-182	-219	-86	-60	-238	-130	-174
29 JAN	-338	-533	-164	-75	-61	-31	-20	-174
5 FEB	-8	-3	10	11	-6	35	12	7
12 FEB	3	1	-9	-19	-28	-10	-20	-12
19 FEB	-11	-19	-26	-74	-21	16	35	-14
26 FEB	-49	-256	-23	-21	-156	-778	-661	-278
5 MAR	-453	-193	-61	-116	-156	-94	-30	-157
12 MAR	-10	-9	-8	-17	-24	-12	-1	-11
19 MAR	-34	-127	-5	-9	-28	-55	-46	-43
26 MAR	-64	-67	-17	-31	-57	-51	-42	-47
2 APR	-19	-31	-9	-16	-15	12	9	-10
9 APR	-62	-57	-7	-4	-12	4	20	-17
16 APR	9	4	-13	-20	-24	-7	12	-6
23 APR	-9	-12	-4	-5	-39	2	-8	-11
30 APR	-1	9	10	11	8	3	-9	4
7 MAY	-9	-23	-24	9	10	3	-1	-5
14 MAY	-12	20	-15	16	9	1	5	4
21 MAY	25	-9	-3	-2	5	18	23	8
28 MAY	5	-7	11	7	2	-79	-7	-10
4 JUN	20	18	6	14	8	-24	-11	4
11 JUN	0	-9	-25	4	-12	-19	-7	-10
18 JUN	3	3	-9	1	9	9	63	11
25 JUN	21	2	-2	3	1	-2	1	4
2 JUL	-2	8	18	29	26	14	12	15
9 JUL	8	11	18	19	17	-5	-37	4
16 JUL	-24	-23	3	3	6	4	3	-4
23 JUL	-11	-4	-2	0	1	21	56	9
30 JUL	16	25	21	5	-1	-4	-1	9
6 AUG	7	13	9	16	25	43	9	17
13 AUG	2	-4	-1	1	-21	-11	5	-4
20 AUG	-8	-23	8	25	-29	5	-6	-4
27 AUG	8	6	8	5	-6	-53	20	-2
3 SEP	3	10	45	13	9	0	18	14
10 SEP	30	18	8	13	8	-11	3	10
17 SEP	10	-7	-19	-8	-17	3	-28	-9
24 SEP	16	13	1	-56	-9	5	29	0
1 OCT	61	6	-4	24	-38	-75	49	3
8 OCT	5	2	-2	-54	-82	-6	-28	-24
15 OCT	-25	-255	-135	-90	9	-79	-260	-119
22 OCT	-56	17	-8	-90	-43	-85	-4	-38
29 OCT	-10	-70	-129	-36	-17	13	45	-29
5 NOV	17	-26	-128	-207	-296	-90	-91	-117
12 NOV	-143	-12	-117	-98	-10	12	7	-52
19 NOV	-8	-23	-485	-134	-44	-43	-54	-113
26 NOV	-95	-36	-83	-65	-60	-392	-112	-120
3 DEC	-24	-39	-4	-293	-116	-30	-139	-92
10 DEC	-3	29	-6	27	1	-13	-18	3
17 DEC	-33	-42	-94	-221	-204	-10	-12	-88
24 DEC	-109	1	-2	-67	31	-34	-204	-55
31 DEC	-83	-49	-100	-136	-167	-185	-36	-108

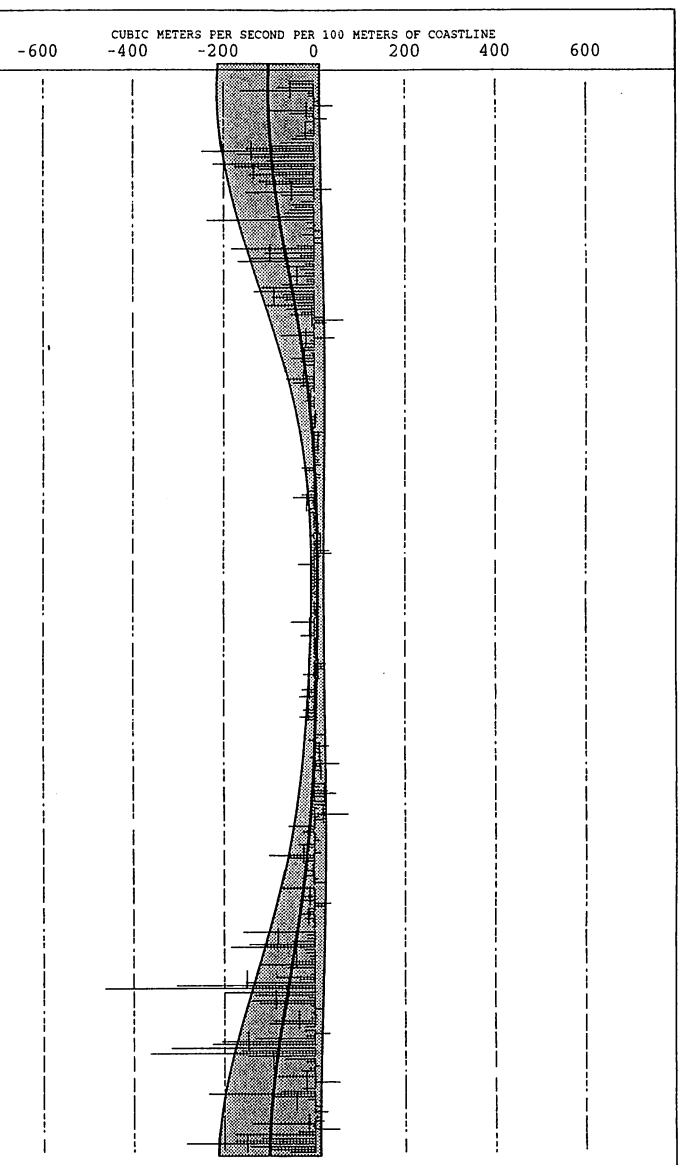


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1990 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-53	-55	-79	-161	-13	-10	4	-52
14 JAN	9	44	-11	-105	-52	-17	30	-15
21 JAN	-14	2	2	-9	-27	-38	-45	-18
28 JAN	-72	-96	-152	-245	-169	-134	-103	-139
4 FEB	-220	-174	-117	-88	-143	-59	-118	-131
11 FEB	-104	-42	41	-148	-68	6	-25	-49
18 FEB	-49	-39	-52	-62	-91	-234	-17	-78
25 FEB	4	-11	14	-23	16	-2	16	2
4 MAR	-34	-182	-107	-31	-139	-169	-19	-97
11 MAR	-66	-30	-18	-49	-16	-16	-67	-37
18 MAR	-115	-133	-65	-92	-62	-38	-107	-87
25 MAR	-61	-28	-52	22	66	29	0	-3
1 APR	-2	-30	-71	46	-7	-33	-27	-18
8 APR	-29	-7	-23	-49	-28	-14	-2	-22
15 APR	-1	-1	-17	-64	-45	-30	-7	-23
22 APR	-2	0	-14	-18	-5	-9	2	-6
29 APR	6	7	7	6	-1	1	3	4
6 MAY	22	15	4	6	8	6	9	10
13 MAY	13	8	12	11	16	-28	-20	2
20 MAY	16	14	2	-3	-5	-6	-9	1
27 MAY	-27	-46	-9	-4	-2	-8	-8	-15
3 JUN	-2	8	8	12	6	9	14	8
10 JUN	-9	2	15	16	13	34	39	16
17 JUN	15	10	1	-36	3	11	3	1
24 JUN	3	18	8	4	-1	6	10	7
1 JUL	4	1	8	16	13	7	5	8
8 JUL	5	-52	4	6	5	-3	-29	-9
15 JUL	5	6	3	1	4	3	-1	3
22 JUL	6	25	21	23	0	-22	13	9
29 JUL	11	9	0	-26	-16	-32	-4	-8
5 AUG	-4	3	-3	-24	-9	-32	-17	-12
12 AUG	2	-2	3	2	24	9	-9	4
19 AUG	16	35	9	17	5	-9	19	13
26 AUG	57	16	18	3	1	3	8	15
2 SEP	24	12	33	47	27	2	20	24
9 SEP	24	9	2	78	11	22	4	21
16 SEP	-57	-5	-24	5	8	11	-35	-14
23 SEP	-7	5	16	-100	-60	-19	-4	-24
30 SEP	-1	-14	-5	-15	11	23	0	0
7 OCT	-69	-1	1	-33	-32	36	27	-10
14 OCT	-11	-16	-31	-20	-5	0	-5	-12
21 OCT	-1	-156	-15	-15	-49	-143	-185	-80
28 OCT	-22	-18	-10	-6	-53	-118	-60	-41
4 NOV	-2	-7	-81	-35	-152	-303	-464	-149
11 NOV	-200	-133	-11	-137	-121	-8	21	-84
18 NOV	-7	5	-6	-90	-98	-20	-22	-34
25 NOV	36	-21	-130	-203	-224	-315	-159	-145
2 DEC	-364	-146	-66	-19	10	-13	-30	-90
9 DEC	-1	-82	-2	56	-3	-26	-74	-19
16 DEC	-231	-87	-15	3	18	3	29	-40
23 DEC	0	12	21	-137	-4	58	-38	-13
30 DEC	-174	-115	-175	-283	-139	-95	-55	-148



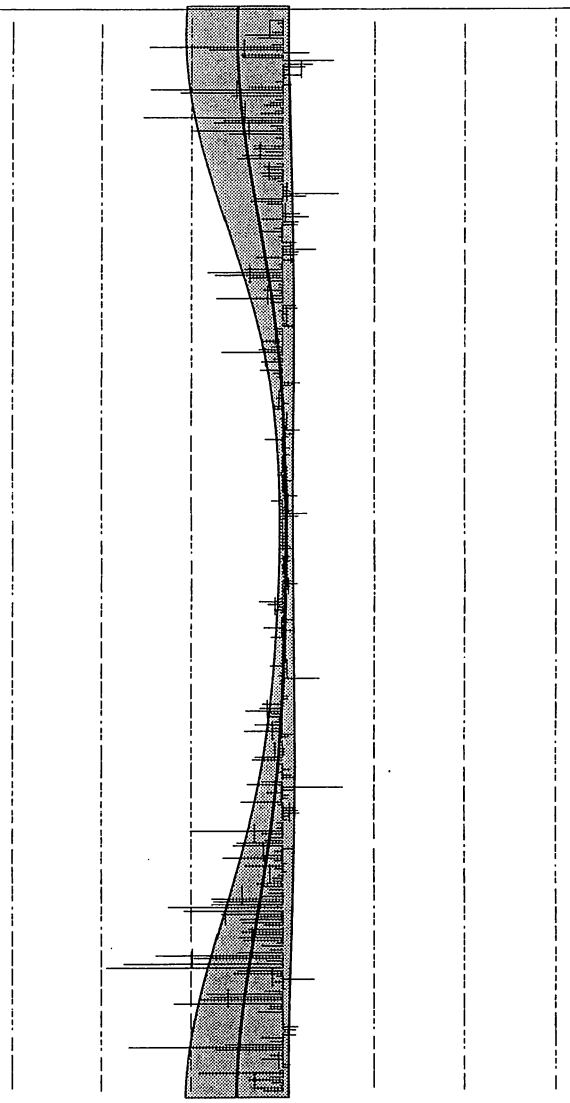
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-26	-13	-3	-2	-23	-83	-55	-29
13 JAN	-2	-24	-292	-159	58	-93	-88	-86
20 JAN	113	64	48	10	4	40	7	41
27 JAN	-16	18	-74	-291	-223	-112	-16	-102
3 FEB	-26	-41	-5	-15	-49	-307	-127	-81
10 FEB	-150	-27	-12	-201	-119	-12	-1	-74
17 FEB	0	-62	-62	-37	-87	-99	0	-50
24 FEB	-13	-40	-34	-46	-44	-22	-9	-30
3 MAR	-5	9	15	124	52	-58	-69	10
10 MAR	-31	0	2	39	58	-47	34	8
17 MAR	33	-17	-52	-3	-6	0	28	-2
24 MAR	24	74	36	33	-58	20	-8	17
31 MAR	-7	-83	-163	-145	-67	-22	-7	-71
7 APR	-7	-40	-7	-22	-144	-27	29	-31
14 APR	31	-7	6	1	4	8	21	9
21 APR	-17	-10	-13	-1	-45	3	-23	-15
28 APR	-52	-132	-3	-21	-45	-4	-3	-37
5 MAY	-48	-22	-11	-1	38	18	4	-3
12 MAY	-11	-8	-12	-5	12	-18	-14	-8
19 MAY	6	4	-4	2	8	10	38	9
26 MAY	25	13	-37	3	-1	15	9	4
2 JUN	16	1	3	0	6	6	-6	4
9 JUN	-11	7	18	10	3	6	6	5
16 JUN	31	11	-24	-6	3	23	55	13
23 JUN	34	10	-2	3	1	1	7	7
30 JUN	13	6	5	14	23	2	3	9
7 JUL	15	15	0	-3	0	5	0	5
14 JUL	7	21	31	15	13	7	2	13
21 JUL	-7	-53	-32	-7	-17	-4	5	-16
28 JUL	21	12	-2	-39	21	-3	-27	-2
4 AUG	4	2	4	4	4	1	2	3
11 AUG	11	-4	-27	9	-4	-8	83	9
18 AUG	-5	-5	0	1	2	9	12	2
25 AUG	-3	-43	-48	-80	-25	-27	-6	-33
1 SEP	-14	-61	-18	-83	20	12	1	-20
8 SEP	-3	2	4	7	3	-59	-66	-16
15 SEP	-13	0	17	-4	21	27	-42	1
22 SEP	-76	134	24	-34	12	13	-90	-3
29 SEP	-8	30	36	39	15	9	-10	16
6 OCT	0	-10	-201	-47	-24	-36	-98	-59
13 OCT	-106	23	-15	-44	-130	-15	11	-39
20 OCT	-82	-14	10	-9	-20	-19	-54	-27
27 OCT	-42	-28	-31	-47	-155	-149	-155	-86
3 NOV	-251	-217	-132	-52	-89	-84	-40	-123
10 NOV	-75	-87	-59	-94	-85	-11	-43	-65
17 NOV	-25	-97	-279	-193	-32	-350	-388	-195
24 NOV	-97	-106	-14	72	-14	-3	8	-22
1 DEC	-37	-162	-154	-181	-237	-26	-28	-118
8 DEC	-51	-3	1	0	4	34	31	2
15 DEC	17	29	-44	-23	-124	-338	-142	-89
22 DEC	-2	-23	-42	2	18	11	-5	-6
29 DEC	-180	-26	-75	-21	-5	-66	-41	-59

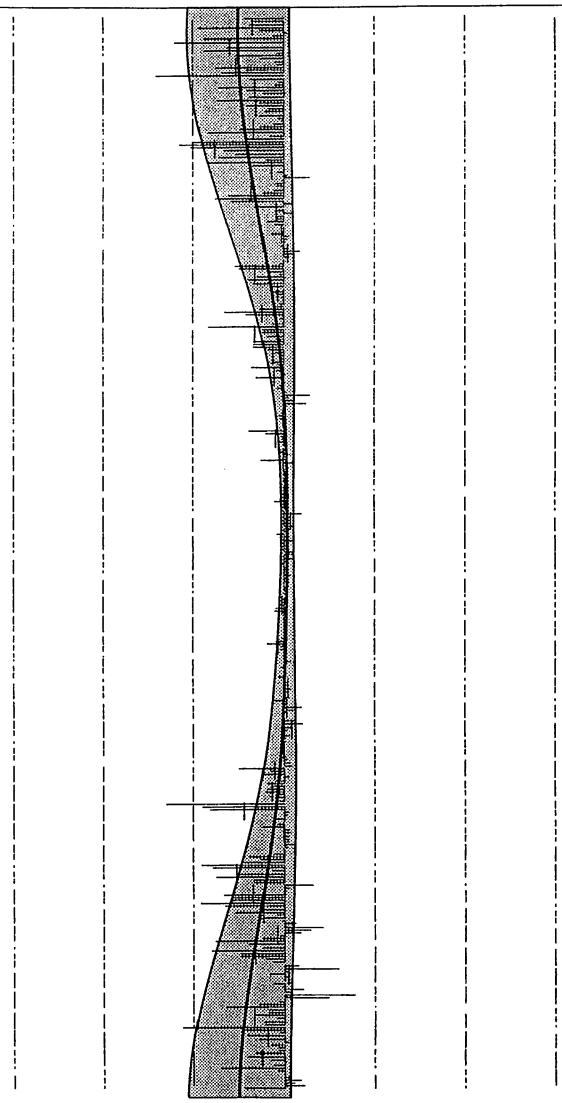


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1992 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-84	-68	-73	-187	-50	8	-24	-68
12 JAN	-177	-240	1	-124	-175	-15	-105	-119
19 JAN	-48	-19	-13	-147	-83	-135	-282	-104
26 JAN	-70	-10	-22	-143	-79	-43	-74	-63
2 FEB	-146	-53	-80	-32	-40	-53	-12	-59
9 FEB	-4	-21	-49	-95	-164	-31	-86	-64
16 FEB	-202	-229	-203	-133	-104	-143	-40	-151
23 FEB	-169	-65	3	-14	7	60	-5	-26
1 MAR	-18	-13	-20	-46	-122	-153	-115	-70
8 MAR	17	-62	-15	18	-14	-11	-36	-15
15 MAR	-19	0	-1	-26	12	9	4	-3
22 MAR	-4	9	36	27	13	1	-7	11
29 MAR	-107	-100	-30	-10	-57	-78	-64	-64
5 APR	-28	2	-28	-12	-5	-3	-6	-11
12 APR	-20	-53	-130	-83	-8	1	-25	-45
19 APR	-166	-43	-42	-35	-18	-64	-66	-62
26 APR	-66	-35	-18	-5	-4	-21	-12	-23
3 MAY	-70	-15	4	-59	0	5	-7	-20
10 MAY	-13	7	60	14	27	52	11	23
17 MAY	-1	-4	-11	-6	1	5	-2	-3
24 MAY	-76	-41	-6	-4	-6	0	-3	-19
31 MAY	-7	16	6	-48	21	3	-1	-2
7 JUN	1	2	3	4	10	8	10	5
14 JUN	6	12	13	-21	8	8	-3	3
21 JUN	41	2	3	16	25	18	7	16
28 JUN	-16	17	22	0	12	13	21	10
5 JUL	23	21	4	-8	3	5	10	8
12 JUL	15	11	12	0	2	2	-1	6
19 JUL	0	11	9	-6	-17	-21	-2	-4
26 JUL	-2	1	5	6	6	1	-1	2
2 AUG	-5	-19	-36	-8	-7	-2	-3	-11
9 AUG	1	14	1	-7	2	3	-9	1
16 AUG	3	9	13	15	9	5	12	10
23 AUG	-22	11	41	20	4	-6	2	7
30 AUG	27	44	19	8	3	12	5	17
6 SEP	5	1	-9	-3	-8	5	8	0
13 SEP	13	19	-100	-29	-45	11	-17	-21
20 SEP	-34	-21	-38	-40	-14	-22	-21	-27
27 SEP	-261	-180	-162	10	7	-20	-2	-87
4 OCT	-15	-45	13	15	10	9	13	0
11 OCT	23	8	-2	-23	-77	-52	-94	-31
18 OCT	-182	-158	-26	-92	-148	-66	-66	-105
25 OCT	65	14	-2	-132	-114	-119	-185	-68
1 NOV	-130	-51	-108	-14	-44	-5	27	-47
8 NOV	88	60	39	-10	-48	-152	-78	-14
15 NOV	-46	-161	-94	-93	-41	-24	31	-61
22 NOV	120	7	-32	8	1	-23	-5	11
29 NOV	43	19	157	100	-10	-54	-128	18
6 DEC	-36	-34	-62	-14	-43	-44	-224	-65
13 DEC	-89	-11	-83	-55	10	-30	-13	-39
20 DEC	-13	-62	-79	-30	5	-24	-138	-49
27 DEC	-14	0	9	39	24	47	-87	3



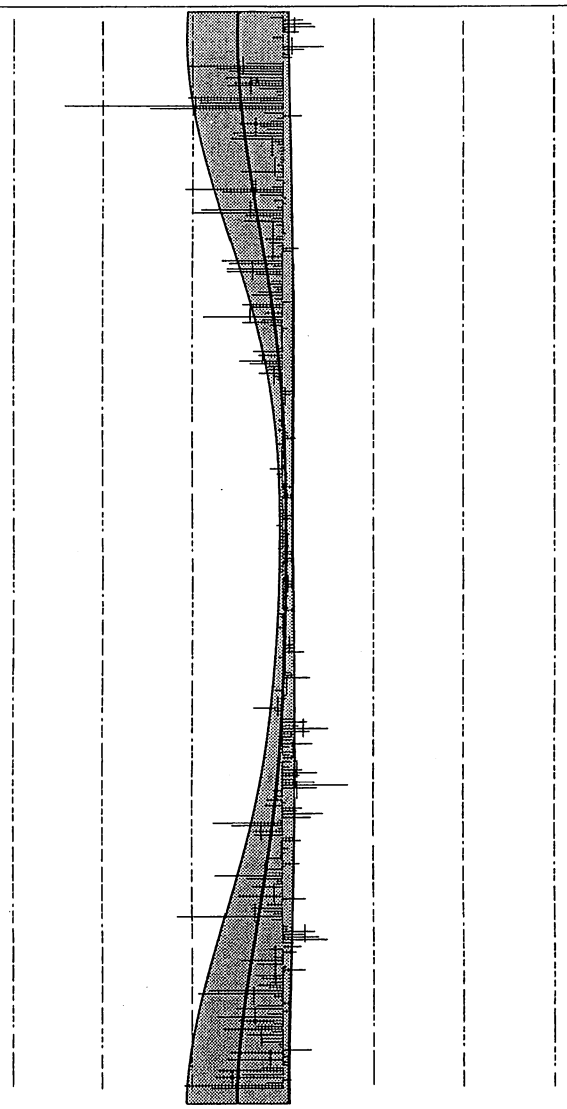
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-27	42	64	71	8	35	-1	27
10 JAN	-20	1	2	91	47	3	16	20
17 JAN	21	0	-79	-207	-142	-114	-99	-89
24 JAN	-122	-68	-106	-121	-51	-13	-11	-70
31 JAN	-210	-184	-183	-485	-292	-40	39	-194
7 FEB	-14	-26	-95	-50	-36	-109	-96	-61
14 FEB	-113	-23	-10	-4	-7	-3	-4	-23
21 FEB	-4	-3	-13	-3	-90	2	-13	-18
28 FEB	-16	8	-25	-215	-131	-49	10	-60
7 MAR	-17	8	-14	-178	-202	-78	-21	-72
14 MAR	-84	-12	0	0	6	-9	-38	-20
21 MAR	-28	-9	34	18	-4	-33	-133	-22
28 MAR	-116	-22	-122	-122	-58	-1	-20	-66
4 APR	-34	-22	-10	-51	-66	-15	19	-25
11 APR	-87	-71	-1	-37	-173	-43	-89	-71
18 APR	-28	14	3	-1	-4	-1	-2	-3
25 APR	0	-6	-64	-52	-6	-94	-71	-42
2 MAY	-29	-29	-52	-18	-10	3	2	-19
9 MAY	3	24	18	-1	-1	6	-4	7
16 MAY	-2	7	4	1	-10	-3	1	-1
23 MAY	-9	13	13	28	3	-7	-3	5
30 MAY	-3	4	8	-1	0	8	-27	-2
6 JUN	-1	-13	-10	-1	13	18	6	2
13 JUN	8	20	22	-2	-2	3	4	7
20 JUN	4	20	19	-3	-11	0	13	6
27 JUN	16	11	10	13	16	-9	25	12
4 JUL	21	22	22	7	-1	-9	-4	8
11 JUL	-2	4	20	20	21	11	14	13
18 JUL	12	7	-1	2	13	25	-8	7
25 JUL	-4	3	6	5	-9	-2	8	1
1 AUG	10	7	5	20	26	46	3	17
8 AUG	-6	-1	8	6	6	18	24	8
15 AUG	61	5	6	8	-14	-2	9	10
22 AUG	9	3	-3	-62	-16	-2	-1	-10
29 AUG	23	54	36	102	59	27	20	46
5 SEP	17	66	14	2	26	14	24	23
12 SEP	19	2	17	43	77	37	27	32
19 SEP	71	146	77	-19	-1	-15	-36	32
26 SEP	7	-37	44	31	90	63	-5	28
3 OCT	-153	-109	-8	-61	-60	27	41	-46
10 OCT	0	2	11	8	-4	-27	4	-1
17 OCT	39	7	-37	-30	-146	-75	-11	-36
24 OCT	-14	-62	-3	-4	-96	53	-1	-18
31 OCT	-35	-66	-41	-21	-231	-23	0	-60
7 NOV	12	9	70	45	80	99	23	48
14 NOV	41	-27	30	-1	-15	-87	-55	-16
21 NOV	8	49	4	-56	-43	-23	-55	-17
28 NOV	-30	-159	-186	-17	-4	19	-54	-61
5 DEC	-98	16	-33	-141	-94	-17	-58	-61
12 DEC	-128	-22	-75	-46	-45	-9	-4	-47
19 DEC	62	-112	11	-117	14	11	-46	-25
26 DEC	-139	-88	-145	17	-35	-216	-155	-109



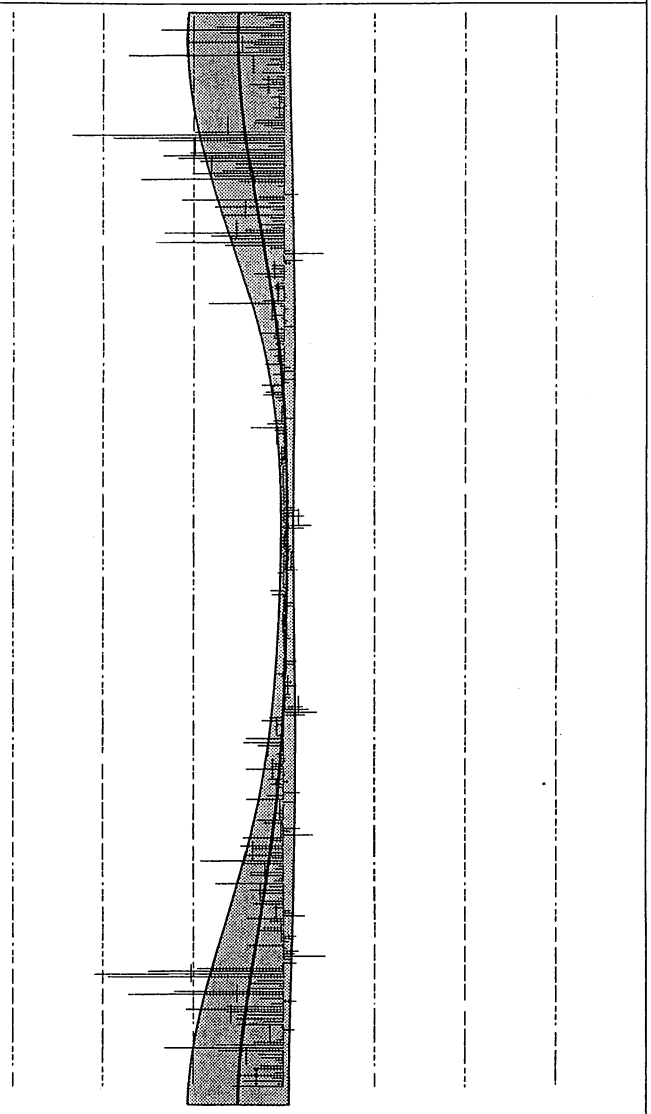
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-57	-42	-17	-29	-146	-271	-138	-100
9 JAN	-49	-57	-211	-64	-81	-56	-111	-90
16 JAN	-343	-30	-7	-36	-10	-5	-47	-68
23 JAN	-15	-45	-29	-75	-54	-11	-10	-34
30 JAN	-26	-10	-6	4	-23	-3	-10	-10
6 FEB	-20	-61	-61	-42	-23	-195	-468	-124
13 FEB	-376	-278	-121	-34	-90	-208	-266	-196
20 FEB	-233	-186	-104	-107	-134	-201	-152	-159
27 FEB	-315	-98	-12	3	-2	32	-56	-64
6 MAR	-224	-33	-153	-24	2	-139	-29	-86
13 MAR	-24	-53	-24	-86	-263	-161	-118	-104
20 MAR	-281	-128	-29	12	88	-2	42	-43
27 MAR	19	-26	-27	-7	-66	-40	-5	-22
3 APR	-7	-22	-21	-3	3	6	-47	-13
10 APR	-165	-7	10	4	-27	-4	8	-26
17 APR	4	24	-11	-55	-23	-21	-11	-13
24 APR	-18	2	-33	5	-20	-4	-14	-12
1 MAY	-42	16	22	-25	-1	25	10	1
8 MAY	-49	1	-41	-45	-17	-11	0	-23
15 MAY	3	10	-8	4	23	-24	-38	-4
22 MAY	-73	-22	-16	1	7	0	1	-15
29 MAY	2	0	-11	-3	-4	-3	-2	-3
5 JUN	4	2	-7	-6	-2	-2	-7	-3
12 JUN	-1	4	5	10	12	2	27	8
19 JUN	36	25	45	11	12	63	46	34
26 JUN	9	-7	-2	-7	-2	18	19	4
3 JUL	26	13	15	5	6	28	32	18
10 JUL	-12	-8	-3	-1	8	4	-29	-6
17 JUL	-26	6	6	22	18	-2	-1	3
24 JUL	0	-2	-5	-4	-2	3	9	0
31 JUL	13	15	8	4	1	7	7	8
7 AUG	2	6	29	27	10	2	-19	8
14 AUG	-5	1	17	29	7	-1	15	9
21 AUG	15	10	4	44	56	75	49	36
28 AUG	-31	-48	-13	2	1	2	-12	-14
4 SEP	-81	-88	-58	-3	-1	-12	2	-34
11 SEP	4	-18	-27	-83	-9	6	-32	-23
18 SEP	14	-26	-9	-3	38	-35	-82	-15
25 SEP	23	3	-3	-7	-12	-3	-58	-8
2 OCT	-42	-2	39	14	66	-87	-23	-5
9 OCT	-1	-94	-68	-24	-84	-25	-182	-68
16 OCT	-88	-6	-15	-75	-75	-8	-20	-41
23 OCT	-148	-28	-74	-53	-2	-6	-42	-51
30 OCT	-67	-21	16	27	50	-80	-28	-15
6 NOV	3	-43	-52	-2	29	24	13	-4
13 NOV	-79	8	35	26	94	20	30	19
20 NOV	-4	-190	-298	-419	-388	-58	-73	-204
27 NOV	-10	-70	-240	-343	-51	29	-27	-102
4 DEC	-123	-215	-125	-100	-100	-44	-102	-116
11 DEC	-7	26	-1	-3	-13	-66	-147	-30
18 DEC	-263	-142	-54	-49	-15	-7	-48	-83
25 DEC	-66	-19	-101	-25	-89	-14	-111	-60

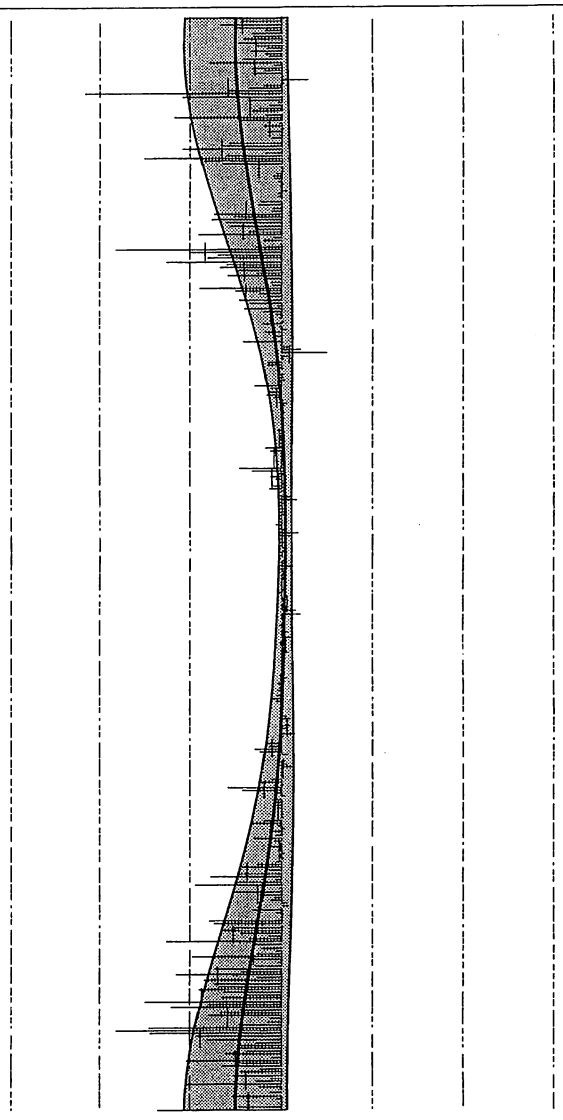


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1995 AT 60N, 149W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-119	-87	-132	-99	-35	-63	-61	-85
8 JAN	-81	-94	-54	-29	-66	-32	-25	-54
15 JAN	-83	-153	-14	-62	-35	-60	5	-57
22 JAN	61	5	-37	-68	-116	-432	-214	-114
29 JAN	-71	-7	-28	-46	-61	-33	-235	-69
5 FEB	-88	-5	-35	5	-30	-4	-20	-25
12 FEB	1	-111	-125	-215	-36	-121	-300	-130
19 FEB	-169	-127	-2	2	-10	-18	-16	-49
26 FEB	-6	4	3	10	-8	-7	-2	-1
5 MAR	-44	-48	-22	-20	-147	-105	-152	-77
12 MAR	-117	-110	-53	-72	-179	-14	-39	-83
19 MAR	-2	-55	-363	-198	-139	-160	-251	-167
26 MAR	-118	-132	-90	-54	-114	-28	-20	-79
2 APR	-18	-177	-99	-46	-33	-91	-68	-76
9 APR	-8	-79	-38	-9	-4	4	-37	-24
16 APR	-5	14	-35	-9	1	-82	-1	-17
23 APR	22	44	102	12	4	-28	-28	18
30 APR	0	0	7	4	11	-5	-57	-6
7 MAY	-24	-27	-33	-17	4	13	7	-11
14 MAY	6	8	3	7	7	1	1	5
21 MAY	-7	2	-3	-4	11	3	-34	-5
28 MAY	-23	6	-1	4	-1	1	-90	-15
4 JUN	-63	-8	-22	-12	4	-20	-28	-21
11 JUN	-3	3	24	35	3	1	9	10
18 JUN	11	5	3	-1	-14	-1	7	2
25 JUN	36	19	0	4	-2	4	5	10
2 JUL	3	2	3	7	25	13	5	8
9 JUL	4	3	2	-2	2	4	-9	1
16 JUL	2	3	1	6	11	31	42	14
23 JUL	1	2	4	-4	-3	15	7	3
30 JUL	22	13	-5	-2	9	19	10	10
6 AUG	11	-2	0	1	-1	8	-6	2
13 AUG	12	6	-7	-4	-10	-2	-10	-2
20 AUG	-20	-11	2	-3	2	2	9	-3
27 AUG	22	-5	20	12	3	30	3	12
3 SEP	-1	-32	-28	-58	-46	11	1	-22
10 SEP	8	11	28	1	-2	-1	-22	4
17 SEP	-50	5	-115	-84	-11	8	-16	-38
24 SEP	-13	-10	-6	2	5	4	-37	-8
1 OCT	-62	-6	7	-28	-12	-56	-14	-24
8 OCT	-4	-23	-8	8	-6	5	-9	-5
15 OCT	-52	-85	-26	-94	-155	-13	-102	-75
22 OCT	-189	-5	-101	-47	-17	-23	14	-52
29 OCT	17	-61	-10	3	2	-157	-145	-50
5 NOV	-108	-127	-88	-27	-71	-251	-58	-104
12 NOV	-42	-10	-53	-193	-64	-8	-55	-61
19 NOV	-144	-87	-230	-52	-168	-142	-134	-137
26 NOV	-180	-123	-75	-130	-300	-161	-239	-172
3 DEC	-88	-130	-158	-24	-32	-89	-290	-116
10 DEC	-364	-288	-186	-160	-55	-89	-86	-175
17 DEC	-74	-121	-21	-208	-96	-128	-45	-99
24 DEC	-90	-105	-24	-54	-205	-46	-3	-75
31 DEC	-23	-108	-11	1	-5	-91	-270	-72



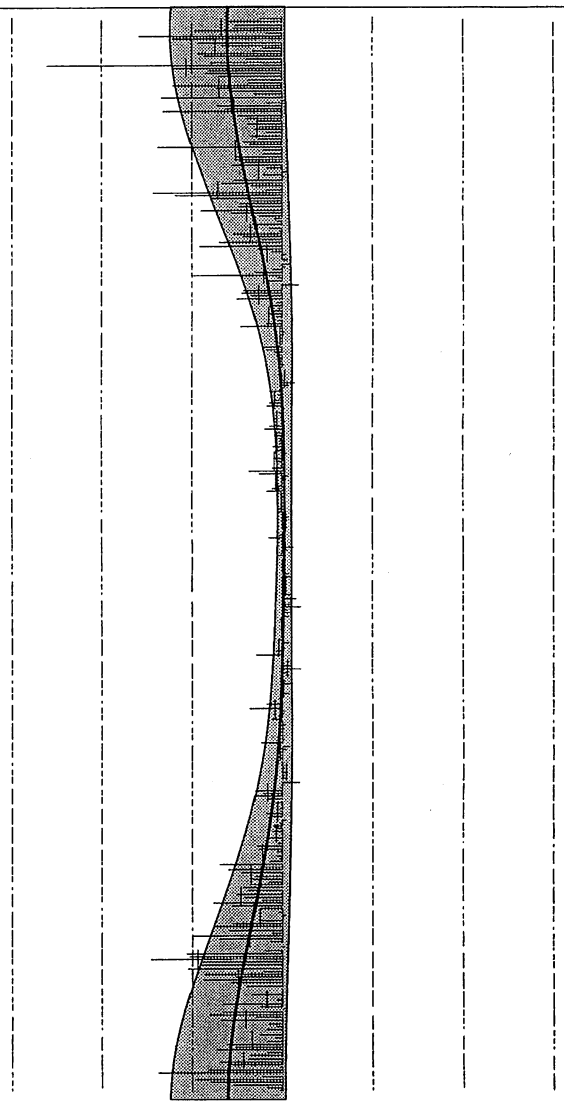
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1986 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-45	-120	-101	-108	-192	-35	-315	-131
12 JAN	-241	-186	-128	-42	-64	-187	-171	-145
19 JAN	-77	-158	-521	-237	-162	-168	-136	-208
26 JAN	-71	-72	-241	-142	-109	-58	-266	-137
2 FEB	11	-33	-142	-124	-263	-97	-75	-103
9 FEB	-51	-74	-49	-60	-33	-62	-50	-54
16 FEB	-83	-72	-275	-41	-40	-98	-104	-102
23 FEB	-81	-108	-34	12	-41	5	-105	-50
2 MAR	-132	-64	-34	-284	-236	-158	-67	-139
9 MAR	-89	-92	-178	-111	-50	-16	-9	-78
16 MAR	-64	-28	-5	-107	-85	-43	-138	-67
23 MAR	-182	-54	-21	9	-2	11	21	-31
30 MAR	8	-22	-58	-196	-10	-32	36	-39
6 APR	2	-85	-87	-64	-100	-9	-26	-52
13 APR	-6	-18	-25	-12	-10	-36	-89	-28
20 APR	1	8	5	-5	-3	-2	-39	-5
27 APR	-31	-14	-7	-3	-2	7	-4	-8
4 MAY	2	3	-2	6	30	17	3	8
11 MAY	-27	-6	-3	-16	-27	-32	6	-15
18 MAY	-5	-1	-2	11	-2	-26	-37	-9
25 MAY	-7	-8	-8	-5	-4	-17	-10	-8
1 JUN	13	0	-19	-7	6	-21	-71	-14
8 JUN	-50	15	11	-1	-13	-21	-32	-13
15 JUN	4	6	1	3	5	-11	-9	0
22 JUN	11	16	14	9	13	5	3	10
29 JUN	-3	-30	-1	10	27	12	0	2
6 JUL	-8	10	6	1	5	6	16	5
13 JUL	17	5	8	7	2	5	19	9
20 JUL	33	6	22	43	14	19	15	22
27 JUL	-5	-1	3	2	0	-1	-3	-1
3 AUG	-5	15	5	6	-13	-56	2	-7
10 AUG	1	6	20	43	13	2	-2	12
17 AUG	6	18	2	2	15	2	-7	5
24 AUG	-4	-36	-70	9	6	2	-20	-16
31 AUG	-4	8	3	2	2	2	3	2
7 SEP	-47	19	10	-7	-4	-1	0	-4
14 SEP	-1	4	4	12	5	9	42	11
21 SEP	-1	-5	-61	-43	-60	-32	-16	-31
28 SEP	-2	-4	-3	-34	-22	9	-5	-9
5 OCT	-22	-9	-22	2	-34	2	-10	-13
12 OCT	-56	-51	-9	-10	-4	-25	-139	-42
19 OCT	-47	-117	-87	-59	-61	-28	-68	-67
26 OCT	-84	-73	-98	-82	-42	-153	-111	-92
2 NOV	-45	-7	11	2	-51	-106	-151	-50
9 NOV	-115	-20	-197	-137	-26	3	5	-70
16 NOV	-36	-210	-205	-291	-177	-182	-206	-187
23 NOV	-40	-171	-103	-172	-111	-77	-1	-96
30 NOV	0	-66	-1	-14	-130	-45	6	-36
7 DEC	-130	-159	-58	-135	-29	-13	-35	-80
14 DEC	2	-50	-16	-31	-120	-101	-144	-66
21 DEC	-31	-67	-74	-136	-119	-5	-162	-85
28 DEC	-275	-44	-193	-156	-108	-35	-4	-116

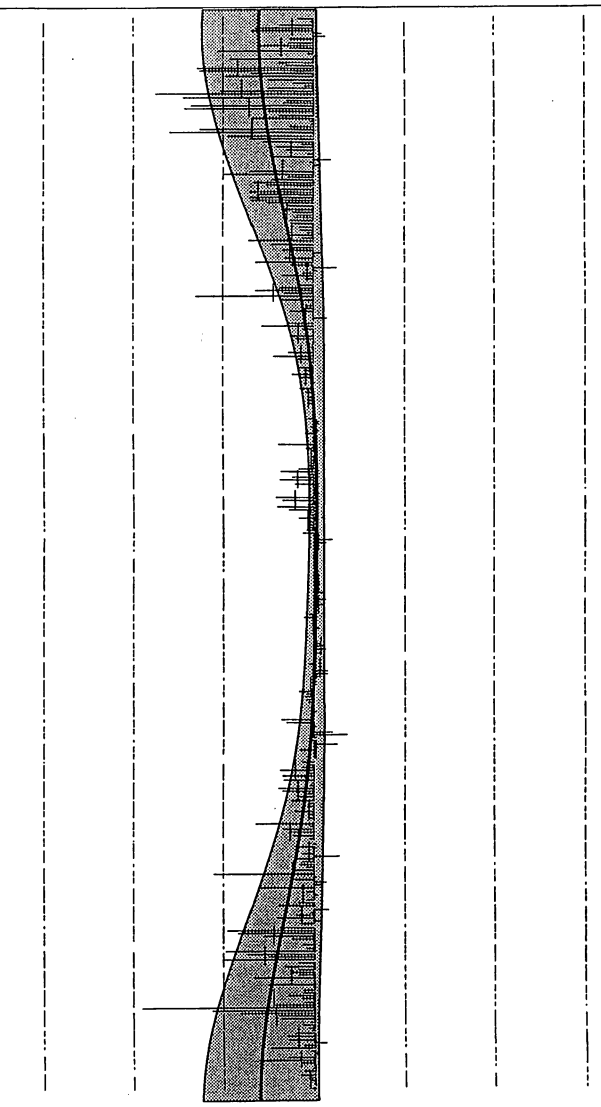


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1987 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	-32	-8	-72	-126	-136	19	27	-47
11 JAN	-49	-54	-124	-51	-210	-9	10	-70
18 JAN	-181	-75	-59	-257	-252	-135	-193	-164
25 JAN	-98	-42	-22	-100	-206	-348	-289	-158
1 FEB	-60	-66	-270	-284	-98	-72	-136	-141
8 FEB	-7	-3	-48	-251	-317	-186	-136	-136
15 FEB	-109	-22	-79	-59	-12	-88	38	-47
22 FEB	-8	16	-2	-138	-198	-58	-90	-68
1 MAR	-130	-103	-80	-140	-120	-137	-137	-121
8 MAR	-102	-58	-70	-44	-34	-40	-49	-57
15 MAR	-45	-28	-27	-11	-54	-24	-141	-47
22 MAR	-92	-42	-64	15	5	-61	-126	-52
29 MAR	-45	51	6	-21	-68	-16	0	-13
5 APR	-28	-74	-126	-62	-259	-72	-1	-89
12 APR	-14	-17	-48	-1	31	2	-55	-15
19 APR	-112	-23	1	-46	-39	3	-2	-31
26 APR	-8	-1	-55	-88	-31	-3	0	-27
3 MAY	-30	-18	-47	-25	1	5	1	-16
10 MAY	-28	-16	1	-8	-8	-8	-1	-10
17 MAY	0	-1	-1	-10	12	12	-3	1
24 MAY	12	-17	5	3	-3	-75	-15	-13
31 MAY	4	2	-1	2	3	-6	-31	-4
7 JUN	-71	-11	-45	-73	-40	-2	5	-34
14 JUN	5	6	-83	-69	-14	-80	-53	-41
21 JUN	-12	-5	-32	-9	-11	-9	-15	-13
28 JUN	-23	1	40	26	8	7	3	9
5 JUL	0	0	0	5	5	7	10	4
12 JUL	2	5	11	11	10	12	20	10
19 JUL	11	27	15	17	3	3	-9	10
26 JUL	-20	-3	1	4	12	0	0	-1
2 AUG	2	8	18	24	27	14	4	14
9 AUG	7	4	-9	4	31	30	13	11
16 AUG	3	3	6	2	-32	-16	-18	-7
23 AUG	-14	-14	-6	1	4	0	2	-4
30 AUG	-70	-59	4	2	40	75	3	-1
6 SEP	-5	51	6	-32	1	2	3	4
13 SEP	-23	-14	-24	-73	-15	-67	-66	-40
20 SEP	-4	-6	-77	-68	-13	-33	-48	-35
27 SEP	-9	-11	2	-40	-11	-8	0	-11
4 OCT	-128	-7		-66	-54	-42	-6	-50
11 OCT	3	-38	-1	-24	58	-38	-25	-9
18 OCT	-27	-15	-44	-221	4	-41	26	-45
25 OCT	16	-115	-16	6	-5	-12	-33	-23
1 NOV	-76	31	-8	-38	-80	12	-27	-26
8 NOV	-73	-190	-165	-109	-48	-3	-23	-87
15 NOV	-14	-194	-142	-100	-203	-36	-62	-107
22 NOV	-31	-51	-32	-128	0	-100	2	-49
29 NOV	-25	-23	-56	-27	-20	-83	-379	-87
6 DEC	-223	-159	-76	-70	-8	-25	-12	-82
13 DEC	-4	-41	-58	-58	26	-20	-96	-36
20 DEC	-7	11	-56	-119	-28	-3	-3	-29
27 DEC	-24	-30	-12	-7	0	2	-5	-11

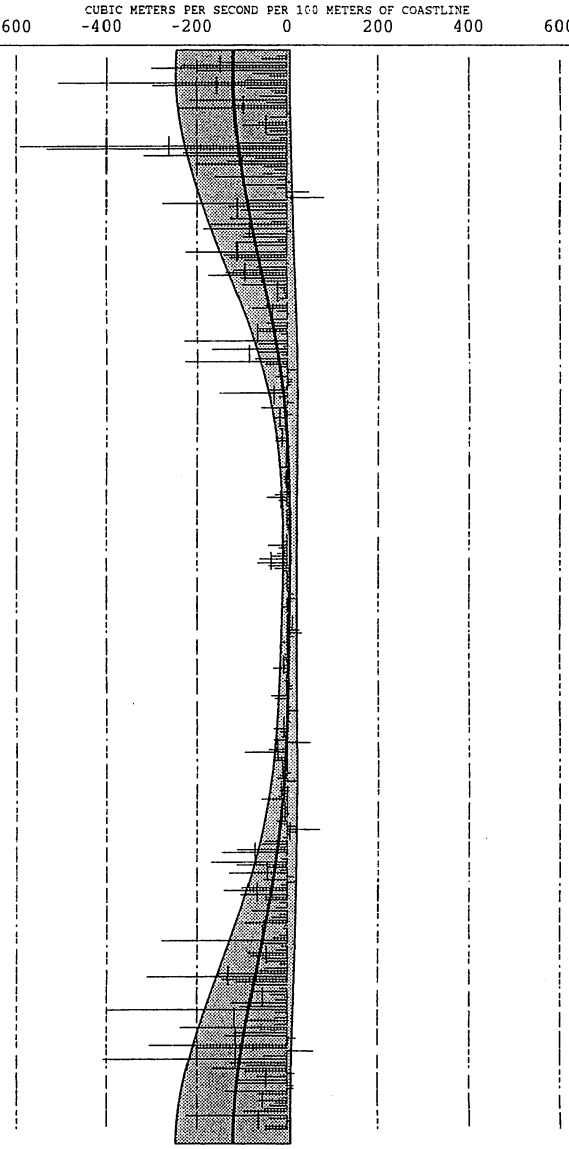


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-20	-55	-144	-232	-300	-200	-75	-147
10 JAN	-37	-91	-506	-296	-89	-31	-27	-154
17 JAN	-57	-212	-42	-122	-238	2	7	-95
24 JAN	-34	2	-59	-96	-48	-36	-42	-45
31 JAN	-12	-35	-105	-590	-532	-228	-316	-260
7 FEB	-69	-130	-203	-49	-28	-55	-158	-99
14 FEB	-21	10	-99	-20	48	-3	81	-1
21 FEB	-87	-273	-130	-102	-47	0	-122	-109
28 FEB	-31	-167	-185	19	-91	-96	-21	-82
6 MAR	-109	-67	-8	-222	-138	-126	-94	-109
13 MAR	5	-66	-115	-135	-174	-102	-57	-92
20 MAR	-98	-14	-7	-7	-5	-14	0	-21
27 MAR	-51	-77	-20	6	-1	-38	-43	-32
3 APR	-31	-66	-62	-13	-1	-227	-64	-66
10 APR	-8	-166	-66	-10	-70	-226	-48	-85
17 APR	-14	19	8	-28	10	11	7	2
24 APR	-15	-39	-149	-22	2	15	2	-29
1 MAY	-58	-3	9	-26	-3	-4	-18	-15
8 MAY	-18	-3	0	-25	-25	0	11	-8
15 MAY	2	1	1	-1	-3	-1	-13	-2
22 MAY	-2	0	-6	-8	-4	-3	3	-3
29 MAY	-15	-27	-42	-18	4	2	7	-13
5 JUN	12	7	6	8	8	10	7	8
12 JUN	0	-1	0	-6	-41	-18	-6	-10
19 JUN	-21	-32	-59	-64	-40	-28	-8	-36
26 JUN	1	4	1	-5	1	5	5	2
3 JUL	16	19	12	-2	-7	-1	3	6
10 JUL	5	2	2	1	13	30	35	13
17 JUL	17	1	-7	-1	9	2	-3	3
24 JUL	-6	-3	6	-11	-30	-8	4	-7
31 JUL	1	-4	8	13	13	2	-36	-1
7 AUG	-27	1	2	9	25	6	3	3
14 AUG	4	6	4	-29	-15	-5	-11	-6
21 AUG	-28	51	0	-39	-93	-2	-26	-20
28 AUG	-31	3	-8	-5	6	-16	-21	-10
4 SEP	22	1	2	-17	-9	-19	-58	-11
11 SEP	1	-11	-1	0	4	-8	-21	-5
18 SEP	-9	18	73	20	7	-6	-49	8
25 SEP	-53	-14	-111	-144	-1	-10	-169	-72
2 OCT	-110	-39	-13	-126	15	-52	18	-44
9 OCT	-13	-98	-138	-103	-48	-48	-14	-66
16 OCT	1	-24	-76	-17	-33	-53	-93	-42
23 OCT	-4	-7	-2	-15	-33	-276	-51	-55
30 OCT	-9	-24	-84	-80	-56	-46	-15	-45
6 NOV	-50	-62	-154	-311	-144	-111	-78	-130
13 NOV	-17	-75	-35	-5	-25	-122	-103	-54
20 NOV	-397	-23	2	-26	-93	-27	-236	-114
27 NOV	-56	-116	-132	22	2	-305	-201	-112
4 DEC	59	-4	-51	-408	-125	-88	-166	-112
11 DEC	-92	17	-65	-105	-112	14	14	-47
18 DEC	-136	-65	-8	-65	-25	-37	-48	-55
25 DEC	-96	-220	-42	6	-1	-48	-45	-64



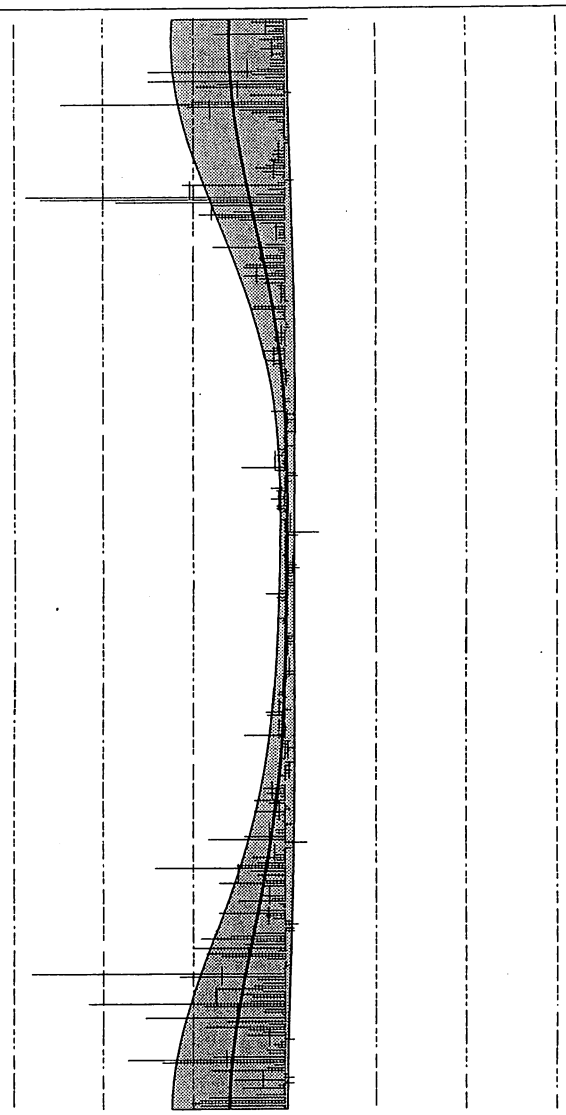
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	54	-71	-39	-21	-35	-153	-25	-41
8 JAN	-54	-12	-24	-53	-3	-24	-6	-25
15 JAN	-30	-29	-30	-58	-298	-69	-40	-79
22 JAN	-300	-146	-194	-17	16	-73	-5	-103
29 JAN	-203	-494	-211	-96	-72	-36	-31	-163
5 FEB	-15	-2	-4	-11	-7	8	11	-3
12 FEB	7	1	-4	-24	-27	-9	-32	-13
19 FEB	-25	-40	-62	-46	-17	-5	22	-25
26 FEB	-12	-224	-34	-8	-60	-575	-541	-208
5 MAR	-372	-158	-58	-110	-188	-144	-95	-160
12 MAR	-51	-21	-10	-9	-14	-14	-6	-18
19 MAR	-40	-156	-12	-7	-41	-55	-48	-51
26 MAR	-85	-87	-19	-39	-87	-55	-44	-60
2 APR	-17	-13	-7	-10	-11	6	2	-7
9 APR	-67	-75	-16	-7	-22	4	10	-25
16 APR	10	3	-13	-25	-21	-3	4	-6
23 APR	-25	-46	-27	-2	-38	-20	-6	-23
30 APR	2	11	13	10	10	1	-8	5
7 MAY	-8	-1	-6	9	13	-5	-6	-1
14 MAY	-30	23	3	23	17	5	7	7
21 MAY	27	0	-2	-2	6	17	-11	5
28 MAY	-6	-18	4	-4	-3	-93	-20	-20
4 JUN	27	29	11	14	7	-29	-18	6
11 JUN	-1	-15	-30	-2	-19	-19	-6	-13
18 JUN	1	3	-8	-1	1	6	77	11
25 JUN	31	1	0	3	1	0	3	6
2 JUL	-4	4	17	27	31	25	24	18
9 JUL	16	14	19	22	12	-12	-41	4
16 JUL	-19	-6	5	5	8	3	6	0
23 JUL	-13	-8	-4	0	2	13	22	2
30 JUL	16	21	16	3	0	-1	0	8
6 AUG	5	3	-1	3	20	23	9	9
13 AUG	4	-1	-1	1	-14	-17	4	-3
20 AUG	2	-10	-1	12	-41	-36	-10	-12
27 AUG	0	2	6	3	-7	-87	0	-12
3 SEP	12	5	23	13	3	0	-9	7
10 SEP	24	13	5	16	11	-6	-3	9
17 SEP	1	-7	-47	-16	-37	-11	-65	-26
24 SEP	-32	7	12	-64	-8	1	-4	-12
1 OCT	16	3	-18	-19	-87	-165	47	-32
8 OCT	2	11	-3	-22	-67	-14	-58	-22
15 OCT	-105	-286	-75	-56	3	-43	-143	-101
22 OCT	-42	2	-1	-50	-26	-100	-11	-32
29 OCT	-5	-61	-144	-42	-25	10	29	-34
5 NOV	21	21	-66	-115	-182	-63	-84	-67
12 NOV	-202	-13	-172	-137	-38	3	6	-79
19 NOV	-3	-1	-561	-230	-57	-47	-66	-138
26 NOV	-145	-45	-97	-72	-73	-431	-175	-148
3 DEC	-39	-42	-3	-303	-128	-33	-174	-103
10 DEC	-79	-45	-79	21	-7	-21	-12	-32
17 DEC	-38	-32	-154	-342	-268	-20	-38	-127
24 DEC	-157	4	20	-110	21	-9	-90	-46
31 DEC	-1	-60	-163	-184	-201	-181	-44	-119



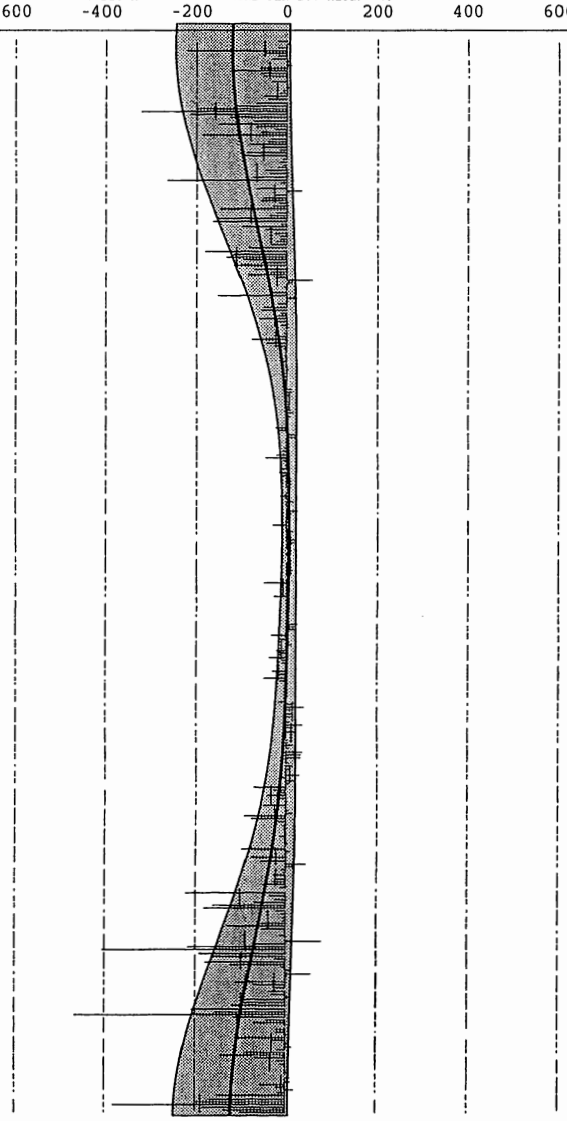
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-17	6	-17	-221	-47	-18	-31	-49
14 JAN	7	12	-60	-121	-58	-51	0	-39
21 JAN	-32	2	3	-7	-15	-48	-41	-20
28 JAN	-65	-111	-199	-320	-214	-123	-71	-158
4 FEB	-149	-68	-25	-57	-186	-33	-44	-80
11 FEB	-81	-53	-12	-87	-99	-8	-13	-50
18 FEB	-8	-20	-47	-39	-73	-263	-11	-66
25 FEB	-3	-64	36	-25	-53	-55	-15	-25
4 MAR	-30	-146	-21	-34	-155	-164	-12	-80
11 MAR	-99	-46	-24	-12	-11	-25	-33	-36
18 MAR	-83	-179	-115	-133	-95	-55	-115	-111
25 MAR	-71	-35	-85	-23	56	14	-5	-21
1 APR	-2	-32	-150	23	-2	-19	-49	-33
8 APR	-53	-11	-25	-61	-25	-13	-1	-27
15 APR	-2	-3	-15	-77	-43	-22	-7	-24
22 APR	-3	0	-6	-6	-1	-3	6	-2
29 APR	5	2	-1	-5	0	1	9	2
6 MAY	12	10	1	4	6	7	11	7
13 MAY	14	9	7	5	4	-24	-19	-1
20 MAY	19	20	2	-1	-2	-4	-8	4
27 MAY	-22	-45	-6	0	0	-7	-16	-14
3 JUN	-8	9	12	12	7	2	6	6
10 JUN	-11	1	14	2	4	27	12	7
17 JUN	11	5	-1	-31	2	15	8	1
24 JUN	3	18	18	8	1	3	9	9
1 JUL	2	2	8	14	16	12	9	9
8 JUL	8	-47	0	3	8	4	-27	-7
15 JUL	7	5	2	0	2	2	1	3
22 JUL	7	27	22	23	-2	-32	-15	4
29 JUL	8	12	4	-22	-16	-39	-10	-9
5 AUG	-8	1	-2	-31	-14	-50	-12	-16
12 AUG	5	0	4	4	4	0	-15	0
19 AUG	19	40	15	14	9	-2	9	15
26 AUG	37	18	21	2	0	4	7	13
2 SEP	16	6	37	34	34	3	7	20
9 SEP	16	9	0	33	-11	17	7	10
16 SEP	-70	-27	-18	-40	-17	0	-49	-31
23 SEP	-4	7	15	-89	-76	-15	-8	-24
30 SEP	4	-3	-2	-13	0	4	-1	-2
7 OCT	-96	9	-1	-76	-56	46	21	-22
14 OCT	-6	-5	-26	-25	-30	-48	-11	-22
21 OCT	0	-220	-35	-22	-68	-161	-179	-98
28 OCT	-19	-10	-4	-3	-53	-127	-52	-38
4 NOV	-1	-10	0	81	-63	-215	-405	-88
11 NOV	-191	-161	-20	-176	-120	-8	12	-95
18 NOV	58	3	-2	-106	-72	-18	-34	-24
25 NOV	-29	14	-90	-91	-118	-207	-153	-96
2 DEC	-464	-113	-41	-68	1	-19	-17	-103
9 DEC	4	-106	-28	6	15	-14	-87	-30
16 DEC	-144	-64	-18	-6	1	1	10	-31
23 DEC	1	12	13	-56	-20	21	-12	-6
30 DEC	-147	-166	-196	-380	-182	-136	-99	-186

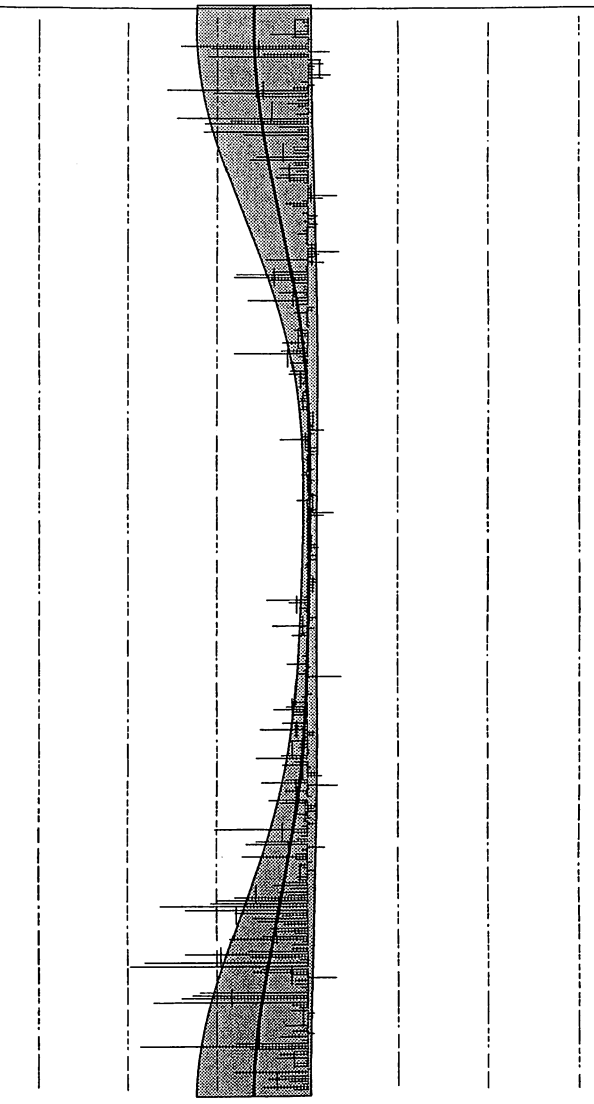


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1991 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-31	-14	-6	-2	-28	-82	-34	-28
13 JAN	9	-4	-283	-212	48	-102	-218	-109
20 JAN	31	34	16	12	5	50	34	26
27 JAN	-17	16	-36	-313	-208	-118	-24	-100
3 FEB	-44	-21	-6	4	-25	-289	-170	-79
10 FEB	-225	-63	-20	-231	-140	-14	-2	-99
17 FEB	-1	-34	-30	-33	-114	-127	-33	-53
24 FEB	-27	-61	-24	-59	-68	-37	-8	-40
3 MAR	-3	4	10	66	34	-10	-46	8
10 MAR	-32	0	-9	25	9	-6	23	1
17 MAR	13	-11	-20	-1	-5	2	16	-1
24 MAR	19	70	27	21	-94	37	-5	11
31 MAR	-4	-77	-156	-162	-86	-27	-10	-74
7 APR	-7	-59	-8	-20	-131	-19	15	-33
14 APR	9	-30	-2	1	4	4	4	-2
21 APR	-30	-16	-21	-3	-53	-1	-22	-21
28 APR	-57	-163	-19	-13	-39	-6	-7	-43
5 MAY	-37	-41	-12	-7	-12	-4	-2	-16
12 MAY	-7	-9	-16	-16	8	-12	-19	-10
19 MAY	8	9	0	5	9	12	38	12
26 MAY	17	-10	-60	-8	-5	22	17	-4
2 JUN	15	-1	-4	-1	4	16	-6	3
9 JUN	-13	2	16	12	3	8	7	5
16 JUN	20	8	-24	-3	7	21	60	13
23 JUN	37	10	-2	4	1	1	6	8
30 JUN	13	5	7	18	27	1	4	11
7 JUL	22	25	-2	-4	-4	5	1	6
14 JUL	11	19	25	16	14	8	4	14
21 JUL	-7	-90	-40	-5	-17	-7	7	-23
28 JUL	20	12	-2	-77	14	-10	-31	-11
4 AUG	3	1	4	2	3	1	-9	1
11 AUG	-2	-5	-43	7	-7	-18	75	1
18 AUG	-5	-5	1	1	3	10	-11	-1
25 AUG	-5	-30	-46	-75	-26	-33	-9	-32
1 SEP	-8	-54	-26	-105	18	14	-4	-24
8 SEP	-34	-16	-18	8	4	-57	-113	-32
15 SEP	-27	-56	9	-2	24	32	-45	-9
22 SEP	-102	69	4	-50	-5	11	-86	-23
29 SEP	-59	17	15	22	-22	6	-6	-4
6 OCT	13	-11	-205	-26	-12	-21	-113	-54
13 OCT	-135	39	-9	-25	-144	-24	11	-41
20 OCT	-19	-11	14	-5	-21	-13	-55	-16
27 OCT	-75	-35	-63	-40	-159	-196	-213	-111
3 NOV	-328	-272	-159	-55	-121	-110	-53	-157
10 NOV	-81	-65	-26	-99	-171	-9	-33	-69
17 NOV	-33	-129	-271	-125	-16	-360	-392	-189
24 NOV	-99	-121	-31	65	-26	-27	-12	-36
1 DEC	-4	-238	-254	-278	-340	-34	-18	-167
8 DEC	-36	16	1	-3	2	-48	-8	-11
15 DEC	-32	17	-57	-13	-158	-370	-127	-106
22 DEC	-28	-59	-67	-5	-25	-30	7	-29
29 DEC	-159	-61	-89	-40	-10	-97	-29	-69



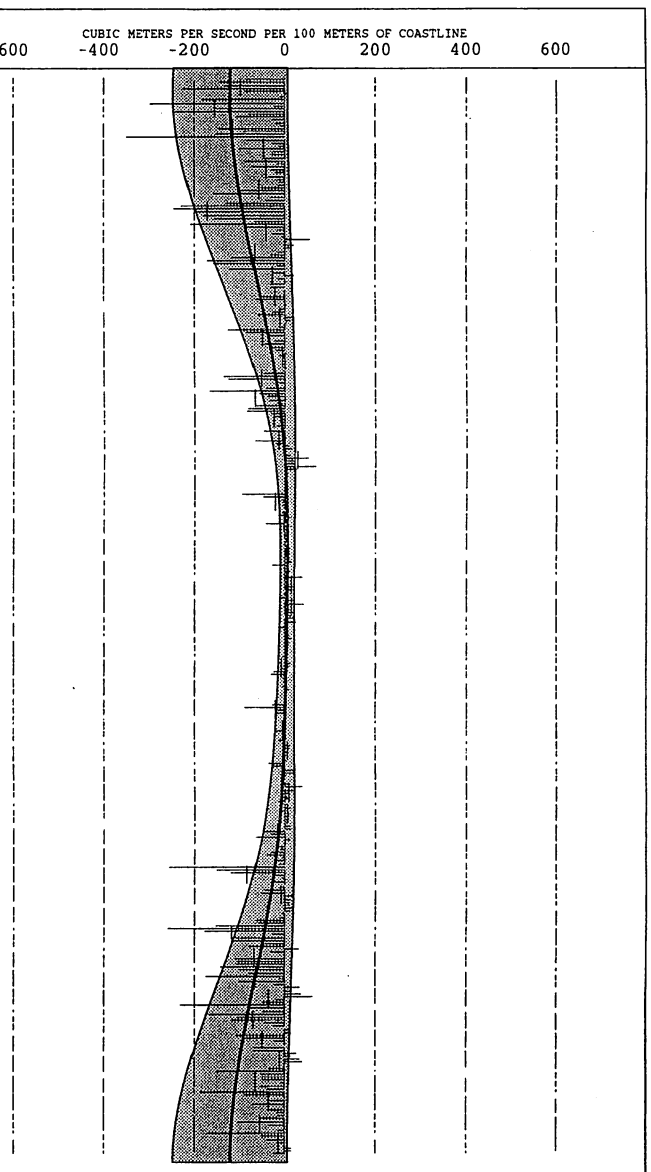
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-82	-142	-132	-222	-87	8	-11	-95
12 JAN	-183	-296	-20	-152	-241	-79	-103	-153
19 JAN	-27	-17	-6	-144	-87	-151	-350	-112
26 JAN	-83	-27	-9	-99	-25	-26	-45	-45
2 FEB	-84	-18	-72	-30	-20	-36	-15	-39
9 FEB	-11	-13	-48	-97	-156	-33	-41	-57
16 FEB	-130	-227	-243	-192	-180	-154	-64	-170
23 FEB	-208	-88	-14	-27	-3	57	4	-40
1 MAR	22	13	-13	-30	-115	-172	-158	-65
8 MAR	-17	-120	-24	20	-12	3	-29	-26
15 MAR	-30	-2	-2	-50	-62	2	4	-20
22 MAR	-9	-27	-56	21	13	5	-9	-9
29 MAR	-123	-81	-31	-2	-21	-44	-35	-48
5 APR	-19	4	-13	-3	2	1	4	-3
12 APR	-3	-47	-136	-123	-10	3	-42	-51
19 APR	-165	-58	-36	-32	-17	-64	-78	-64
26 APR	-81	-29	-25	-3	-3	-19	-3	-23
3 MAY	-46	-1	5	-64	-17	11	16	-14
10 MAY	4	13	55	18	22	71	25	30
17 MAY	6	1	-2	-2	1	4	-3	1
24 MAY	-92	-45	-7	-3	-4	-1	-4	-22
31 MAY	-12	15	10	-39	16	4	1	-1
7 JUN	-1	1	5	2	13	12	11	6
14 JUN	10	12	15	-26	-3	13	-1	3
21 JUN	39	2	9	18	21	10	3	14
28 JUN	-8	20	42	2	14	20	16	15
5 JUL	22	27	3	-12	0	0	10	7
12 JUL	15	10	10	1	3	2	-3	5
19 JUL	0	12	10	-4	-25	-30	-4	-6
26 JUL	-3	1	-4	9	6	1	-2	1
2 AUG	-3	-28	-88	-21	-17	2	1	-22
9 AUG	2	2	-6	-21	-4	2	-12	-5
16 AUG	-2	12	12	10	5	0	4	6
23 AUG	-34	-23	21	23	4	-6	2	-2
30 AUG	10	39	18	9	4	6	-12	11
6 SEP	5	12	-11	10	9	11	9	6
13 SEP	12	14	-45	-30	-64	11	2	-14
20 SEP	-11	-10	-30	-37	-6	-15	-13	-17
27 SEP	-254	-150	-117	-20	-4	-20	0	-81
4 OCT	-9	-43	-52	17	12	10	11	-7
11 OCT	17	14	-4	-11	-60	-58	-152	-36
18 OCT	-257	-178	-27	-118	-115	-44	-75	-116
25 OCT	33	-30	2	-106	-102	-105	-141	-64
1 NOV	-95	-76	-174	-13	-98	-20	34	-63
8 NOV	18	38	62	-17	-49	-229	-75	-36
15 NOV	-45	-164	-105	-114	-42	-23	10	-69
22 NOV	16	-103	-88	-22	-3	-67	-66	-48
29 NOV	28	17	34	42	-1	-34	-149	-9
6 DEC	-51	-48	-49	-7	-54	-39	-184	-62
13 DEC	-88	2	-31	-69	2	-35	-15	-33
20 DEC	-13	-57	-101	-36	0	-12	-170	-55
27 DEC	-49	-38	-19	-2	17	17	-23	-14



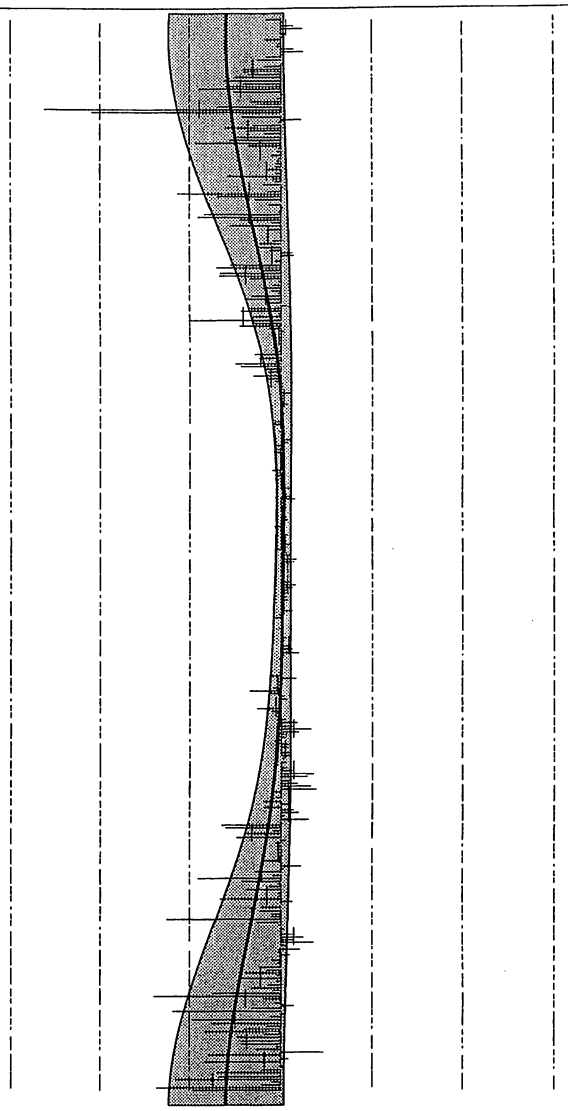
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-29	9	29	49	2	12	8	12
10 JAN	-32	-3	-7	30	53	6	-29	3
17 JAN	-48	6	-34	-81	-82	-72	-101	-59
24 JAN	-124	-82	-121	-177	-101	7	-8	-87
31 JAN	-63	-54	-139	-524	-419	-81	47	-176
7 FEB	-6	-58	-121	-65	-35	-106	-109	-71
14 FEB	-186	-69	-5	-6	-19	-4	-11	-43
21 FEB	-9	-11	-31	-10	-115	-16	-12	-29
28 FEB	-37	8	-27	-227	-138	-54	1	-68
7 MAR	-23	5	-6	-165	-179	-92	-18	-68
14 MAR	-111	-25	0	0	1	-15	-43	-28
21 MAR	-42	-24	27	30	2	-13	-109	-18
28 MAR	-139	-40	-133	-135	-66	-5	-18	-77
4 APR	-38	-19	-7	-63	-79	-28	14	-31
11 APR	-68	-88	-4	-61	-201	-63	-91	-82
18 APR	-25	7	2	-3	-4	-1	-1	-4
25 APR	-1	-5	-57	-47	-5	-98	-89	-43
2 MAY	-33	-25	-60	-29	-13	4	4	-22
9 MAY	5	22	4	-4	1	15	0	6
16 MAY	-2	10	3	-2	-13	-12	-2	-3
23 MAY	-3	10	8	24	16	-7	-7	6
30 MAY	-6	1	5	0	0	9	-19	-1
6 JUN	-8	-8	-5	2	10	21	11	3
13 JUN	13	20	33	0	0	3	6	11
20 JUN	6	13	16	-3	-13	-2	8	4
27 JUN	15	9	12	19	16	-14	13	10
4 JUL	23	34	31	11	3	0	-1	14
11 JUL	-1	2	22	32	25	15	13	15
18 JUL	11	15	0	-1	10	26	-4	8
25 JUL	-9	4	5	2	-4	1	4	0
1 AUG	11	8	5	20	27	41	7	17
8 AUG	-3	0	4	4	2	5	-25	-2
15 AUG	36	1	3	-15	-68	-20	7	-8
22 AUG	11	5	-1	-53	-19	-1	-3	-8
29 AUG	11	38	28	69	41	14	11	30
5 SEP	-14	19	17	0	21	22	12	11
12 SEP	11	2	12	26	74	60	18	29
19 SEP	39	69	79	-17	0	-9	-38	17
26 SEP	14	-34	29	40	11	62	-1	17
3 OCT	-130	-121	-16	-72	-95	10	-11	-62
10 OCT	1	0	5	4	-1	-33	3	-3
17 OCT	45	8	-53	-16	-180	-81	-7	-41
24 OCT	-24	-74	-3	-4	-132	26	2	-30
31 OCT	-44	-44	-19	-21	-251	-50	-5	-62
7 NOV	8	1	32	52	31	73	15	30
14 NOV	43	-5	21	-1	-18	-8	-47	-2
21 NOV	-30	-77	-7	-92	-9	-28	-62	-44
28 NOV	-17	-146	-280	-38	-11	29	-63	-75
5 DEC	-237	10	-22	-193	-149	-29	-80	-100
12 DEC	-165	-34	-94	-83	-84	-7	-51	-74
19 DEC	95	-156	19	-164	2	8	-39	-34
26 DEC	-140	-136	-229	-18	-41	-275	-190	-147

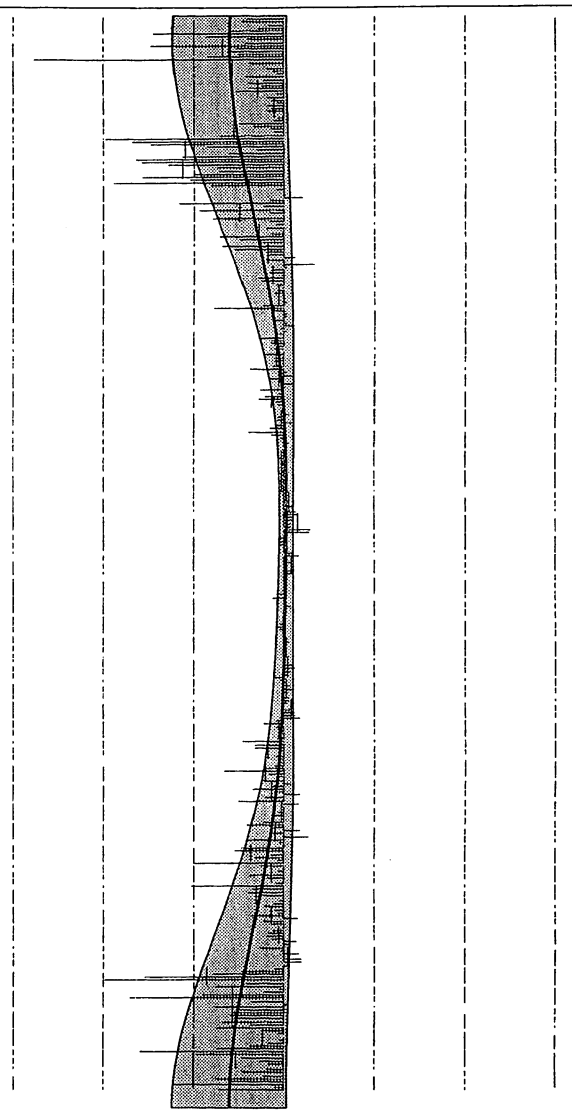


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA.

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1994 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-78	-93	-33	-58	-114	-287	-171	-119
9 JAN	-80	-84	-292	-103	-124	-99	-167	-136
16 JAN	-553	-74	-2	-36	-23	-13	-84	-112
23 JAN	-43	-78	-47	-76	-103	-14	-35	-57
30 JAN	-27	-12	-36	-26	-34	-1	-13	-21
6 FEB	-21	-95	-66	-27	-22	-139	-392	-109
13 FEB	-335	-293	-167	-56	-121	-225	-327	-218
20 FEB	-312	-253	-146	-141	-200	-314	-208	-225
27 FEB	-375	-162	-12	2	4	44	-28	-75
6 MAR	-232	-43	-187	-29	1	-157	-28	-96
13 MAR	-17	-37	-2	-28	-141	-93	-52	-53
20 MAR	-135	-106	-32	-29	27	-37	69	-35
27 MAR	8	-24	-29	-6	-56	-47	-13	-24
3 APR	-1	-14	-17	-2	4	8	-43	-9
10 APR	-155	-17	6	7	-21	6	28	-21
17 APR	-5	6	-17	-54	-26	-26	-14	-19
24 APR	-20	2	-40	-8	-17	-3	-22	-15
1 MAY	-72	8	18	-32	-10	20	4	-9
8 MAY	-53	-10	-39	-54	-16	-9	1	-26
15 MAY	5	12	-9	-13	17	-14	-30	-5
22 MAY	-76	-27	-8	3	12	1	0	-14
29 MAY	-1	1	-10	-3	-8	-5	-4	-4
5 JUN	2	2	-4	-7	-2	-2	-11	-3
12 JUN	1	5	8	12	20	3	30	11
19 JUN	32	25	22	14	16	61	58	32
26 JUN	9	-7	-6	-9	-3	8	20	2
3 JUL	34	11	17	9	5	23	21	17
10 JUL	-2	-2	0	1	11	8	-16	0
17 JUL	-24	2	4	16	5	-1	0	0
24 JUL	0	-1	-6	-14	-6	3	8	-2
31 JUL	9	12	7	1	2	7	14	7
7 AUG	8	7	24	26	16	6	-18	10
14 AUG	-8	1	15	24	10	-1	13	8
21 AUG	11	10	2	19	27	26	38	19
28 AUG	-15	-44	-15	2	4	3	-12	-11
4 SEP	-90	-63	-61	-10	-2	-16	-9	-36
11 SEP	-5	-20	-43	-132	-32	-6	-43	-40
18 SEP	15	-25	-68	-9	36	-40	-98	-27
25 SEP	35	3	-2	-9	-17	-4	-44	-5
2 OCT	-79	-21	39	-23	57	-83	-6	-17
9 OCT	3	-92	-107	-28	-59	-10	-198	-70
16 OCT	-48	0	-9	-72	-35	1	-16	-26
23 OCT	-203	-68	-76	-46	0	-6	-22	-60
30 OCT	-44	-17	-10	-68	33	-44	-27	-25
6 NOV	-2	-22	-31	-34	-24	29	12	-10
13 NOV	-52	-5	34	2	41	40	12	11
20 NOV	-18	-89	-155	-307	-395	-82	-148	-171
27 NOV	-6	-44	-181	-339	-68	9	-151	-111
4 DEC	-97	-109	-119	-108	-134	-71	-146	-112
11 DEC	-45	-11	1	-7	-33	-74	-146	-45
18 DEC	-318	-194	-91	-52	-32	-3	-36	-104
25 DEC	-91	-43	-148	-119	-243	-17	-143	-115



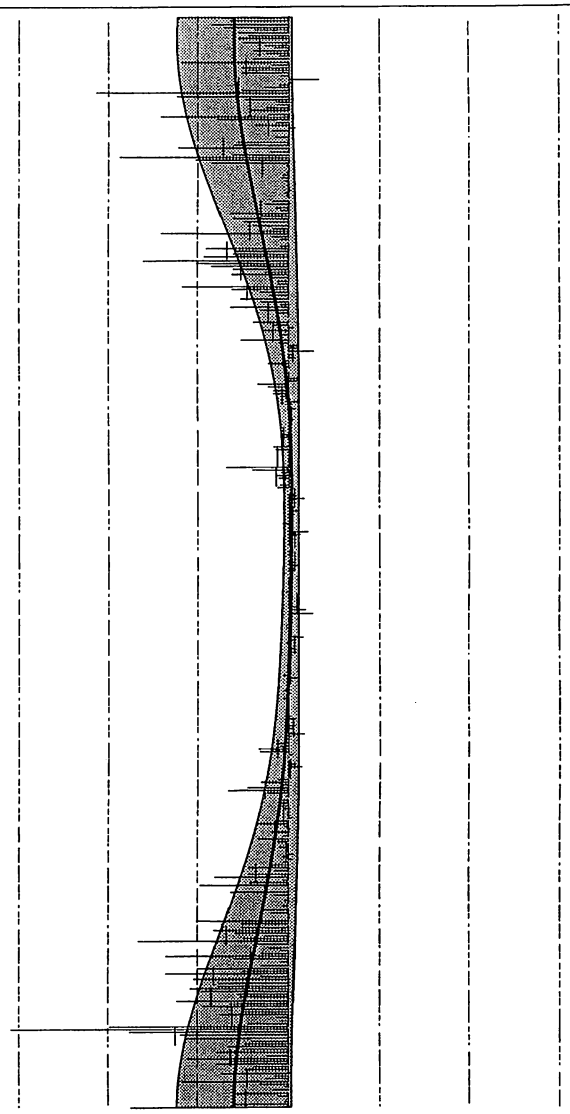
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 60N, 146W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-145	-127	-169	-140	-73	-109	-86	-121
8 JAN	-109	-98	-51	-30	-76	-48	-18	-61
15 JAN	-77	-234	-35	-103	-87	-101	-14	-93
22 JAN	67	7	-22	-51	-103	-427	-245	-110
29 JAN	-94	-27	-23	-48	-86	-44	-282	-86
5 FEB	-155	-28	-71	15	-35	3	-27	-43
12 FEB	-1	-111	-117	-242	-39	-122	-373	-143
19 FEB	-204	-168	-4	2	-4	-9	-12	-57
26 FEB	-8	-2	-2	8	-6	-5	1	-2
5 MAR	-32	-48	-26	-14	-128	-57	-120	-60
12 MAR	-96	-77	-31	-65	-283	-34	-11	-85
19 MAR	-2	-15	-180	-113	-122	-185	-320	-134
26 MAR	-202	-169	-120	-47	-123	-40	-22	-103
2 APR	-20	-234	-125	-59	-40	-105	-58	-91
9 APR	-15	-128	-59	-22	-2	1	-76	-43
16 APR	-28	13	-58	-19	-1	-103	-18	-31
23 APR	20	21	57	13	15	-11	-42	10
30 APR	-2	0	2	2	20	17	-68	-4
7 MAY	-43	-33	-31	-13	6	24	9	-12
14 MAY	16	6	4	7	12	2	3	7
21 MAY	-3	3	-14	-15	-2	1	-33	-9
28 MAY	-27	0	-2	4	-1	2	-138	-23
4 JUN	-80	-14	-24	-22	2	-18	-23	-25
11 JUN	2	6	17	34	7	5	11	11
18 JUN	19	9	5	1	-13	1	9	4
25 JUN	42	25	2	6	1	4	10	13
2 JUL	7	4	9	14	22	14	11	11
9 JUL	8	7	3	-2	3	7	-5	3
16 JUL	2	5	2	8	16	37	55	18
23 JUL	0	-2	6	-6	-3	5	0	0
30 JUL	33	17	-4	0	11	18	7	12
6 AUG	8	-1	-1	-1	5	4	-11	1
13 AUG	17	6	-1	-2	-9	0	-3	1
20 AUG	-9	-6	1	-3	3	3	6	-1
27 AUG	16	-6	16	10	-1	34	6	11
3 SEP	1	-26	-17	-65	-63	7	-2	-24
10 SEP	0	14	29	0	-1	-1	-21	3
17 SEP	-61	-9	-91	-132	-47	-4	-17	-51
24 SEP	-15	-15	-6	0	-2	6	-29	-9
1 OCT	-68	-7	5	-34	-10	-67	-23	-29
8 OCT	-6	-17	-6	9	-9	11	-9	-4
15 OCT	-41	-88	-29	-87	-161	-10	-86	-72
22 OCT	-193	-3	-126	-30	-3	-8	-3	-52
29 OCT	-12	-57	-37	4	4	-203	-103	-58
5 NOV	-101	-163	-114	-52	-100	-333	-74	-134
12 NOV	-43	-14	-57	-271	-119	-14	-59	-82
19 NOV	-196	-102	-272	-60	-206	-153	-151	-163
26 NOV	-216	-192	-110	-104	-245	-131	-188	-169
3 DEC	-100	-95	-149	-28	-19	-87	-396	-125
10 DEC	-619	-350	-238	-220	-79	-93	-133	-247
17 DEC	-99	-156	-45	-221	-126	-158	-78	-126
24 DEC	-97	-147	-33	-50	-232	-61	-6	-89
31 DEC	-32	-118	-22	-4	-8	-120	-347	-93

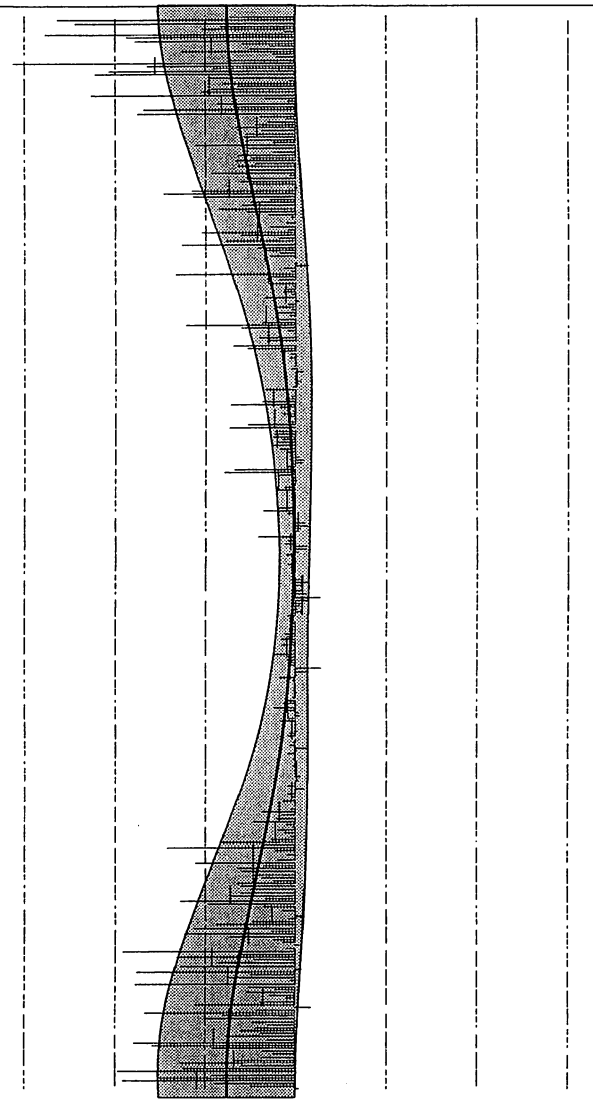


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-142	-527	-488	-165	-203	-22	-555	-300
12 JAN	-374	-354	-114	-55	-99	-250	-47	-185
19 JAN	-41	-142	-623	-327	-178	-414	-443	-310
26 JAN	-186	-10	-160	-127	-186	-206	-452	-189
2 FEB	-66	-17	-171	-129	-335	-349	-78	-163
9 FEB	-22	-59	-87	-131	-75	-107	-113	-85
16 FEB	-100	-50	-220	-103	-47	-126	-99	-106
23 FEB	-130	-89	-127	-100	-184	-14	-106	-107
2 MAR	-122	-100	4	-229	-289	-227	-53	-145
9 MAR	-99	-118	-168	-107	-59	-11	1	-80
16 MAR	-18	-53	-14	-208	-120	-34	-152	-85
23 MAR	-253	-82	-64	-31	-55	1	4	-69
30 MAR	30	-25	-7	-266	-57	-36	-56	-59
6 APR	-4	-23	-27	-7	-69	6	-16	-20
13 APR	-40	-8	-38	-12	-35	-73	-243	-64
20 APR	-121	-18	-3	-78	-61	1	-137	-60
27 APR	-108	-33	-9	-10	-3	2	-5	-23
4 MAY	-7	16	0	-2	13	8	-4	3
11 MAY	-68	-3	-6	-22	-74	-143	-33	-50
18 MAY	-5	-24	-9	0	-19	-108	-147	-44
25 MAY	-45	-46	-50	-29	-37	-50	-35	-42
1 JUN	-16	0	10	19	18	-19	-135	-18
8 JUN	-158	-31	2	3	-5	-25	-42	-37
15 JUN	-6	1	-4	1	0	-37	-72	-17
22 JUN	-19	-5	9	20	27	13	7	7
29 JUN	-2	-81	-15	-20	25	25	6	-9
6 JUL	-22	1	5	-17	-9	1	-2	-6
13 JUL	2	16	29	17	4	14	23	15
20 JUL	54	29	17	11	4	16	-16	16
27 JUL	2	0	-4	-5	-13	-20	-19	-8
3 AUG	-30	-4	-30	-3	-3	-45	-16	-19
10 AUG	-18	-11	-16	56	31	6	-33	2
17 AUG	-4	2	-1	-1	4	2	-6	0
24 AUG	-14	-26	-47	-18	7	10	-12	-14
31 AUG	-32	2	0	2	-10	-16	3	-8
7 SEP	1	-9	24	6	-14	-2	-5	0
14 SEP	3	-5	1	-2	5	12	6	3
21 SEP	-4	-16	17	2	-14	-8	-27	-7
28 SEP	3	1	-9	-75	-30	-39	-93	-35
5 OCT	-17	-3	-37	-20	-8	-51	-163	-43
12 OCT	-66	-283	-42	-15	1	-37	-220	-94
19 OCT	-72	-126	-118	-90	-75	-46	-127	-93
26 OCT	-120	-100	-122	-142	-68	-255	-194	-143
2 NOV	-68	-27	1	19	-13	-97	-172	-51
9 NOV	-223	-56	-247	-143	-47	-26	10	-104
16 NOV	-18	-382	-127	-262	-90	-169	-254	-186
23 NOV	15	-353	-98	-146	-8	-355	-105	-150
30 NOV	-43	-107	-58	-19	-78	-225	35	-71
7 DEC	-84	-332	-161	-200	-93	-59	-86	-145
14 DEC	-118	-74	-152	-59	-358	-315	-183	-180
21 DEC	-71	-47	-74	-134	-255	-118	-247	-135
28 DEC	-394	-185	-303	-381	-176	-99	11	-218



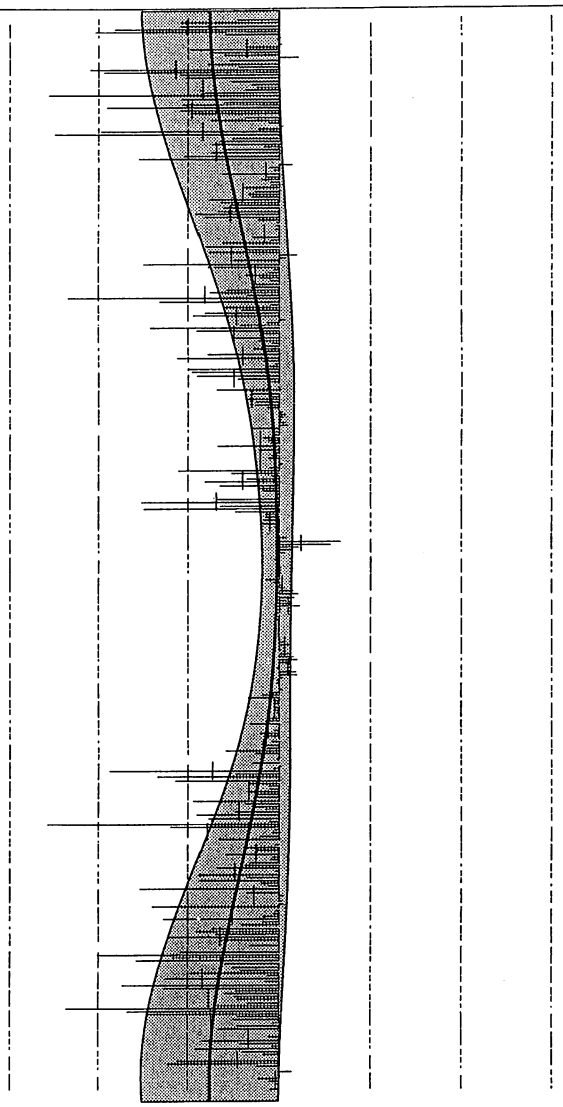
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	-90	-213	-215	-363	-407	-118	5	-200
11 JAN	-4	6	-74	-192	-148	-120	43	-70
18 JAN	-107	-157	-88	-418	-388	-214	-204	-225
25 JAN	-104	-59	-50	-74	-162	-511	-213	-167
1 FEB	-120	-209	-379	-215	-192	-73	-150	-191
8 FEB	-25	10	-45	-392	-497	-101	-130	-168
15 FEB	-146	-33	-115	-150	-207	-310	2	-137
22 FEB	31	-22	-12	-125	-30	-38	-18	-31
1 MAR	-19	-76	-53	-67	-61	-152	-125	-79
8 MAR	-105	-120	-131	-181	-162	-46	-6	-107
15 MAR	-8	-7	-2	-2	-56	-19	-123	-31
22 MAR	-160	-74	-153	41	16	-99	-297	-104
29 MAR	-141	-11	-22	-72	-42	-19	-52	-51
5 APR	-60	-115	-151	-69	-467	-263	-17	-163
12 APR	-119	-83	-161	-187	12	-27	-82	-92
19 APR	-284	-179	-40	-105	-46	-15	-32	-100
26 APR	-55	-35	-157	-224	-35	-10	-32	-78
3 MAY	-199	-190	-180	-92	-20	1	-2	-97
10 MAY	-139	-57	-16	-70	-50	-53	-27	-59
17 MAY	8	13	9	4	15	20	-58	1
24 MAY	-7	-16	-35	-24	-19	-134	-44	-40
31 MAY	-8	-19	-24	2	8	-21	-221	-40
7 JUN	-103	-16	-70	-162	-129	-45	-34	-80
14 JUN	-6	3	-136	-304	-130	-299	-96	-138
21 JUN	-29	-29	-33	-40	-10	-3	-4	-21
28 JUN	-2	16	134	112	44	28	14	49
5 JUL	-1	-11	-2	0	5	7	5	0
12 JUL	-4	-31	-12	6	13	32	44	7
19 JUL	36	16	29	47	5	4	2	20
26 JUL	0	-2	-1	0	0	-2	-5	-1
2 AUG	-1	9	20	1	3	24	32	13
9 AUG	39	25	1	-3	38	40	11	21
16 AUG	-4	-4	2	7	-13	-35	-69	-16
23 AUG	-13	-11	-8	-10	-4	-1	-20	-10
30 AUG	-30	-64	-1	-9	-40	-25	1	-24
6 SEP	-16	-36	-26	-118	-48	2	-6	-35
13 SEP	-57	6	-13	-373	-94	-269	-226	-147
20 SEP	-66	-21	-19	-63	-52	-54	-188	-66
27 SEP	-74	-55	-28	-96	-179	-155	-22	-87
4 OCT	-513	-239		-9	-13	-39	-129	-157
11 OCT	-7	-72	-49	-115	-15	-17	-62	-48
18 OCT	-73	-135	-6	-172	-67	-174	-37	-95
25 OCT	-24	-306	-70	10	-2	6	9	-54
1 NOV	-279	-6	-13	-36	-253	-35	-83	-101
8 NOV	-145	-179	-138	-242	-127	-3	-63	-128
15 NOV	-2	-214	-402	-233	-315	-118	-98	-198
22 NOV	-83	-191	-24	-250	-29	-346	-251	-168
29 NOV	-92	-119	-97	-91	-68	-134	-471	-153
6 DEC	-336	-286	-91	-99	-14	-92	-131	-150
13 DEC	0	5	-21	-168	-85	-15	-182	-67
20 DEC	-79	-36	-1	-222	-243	-46	-1	-90
27 DEC	28	3	-43	-21	-4	-2	-19	-8



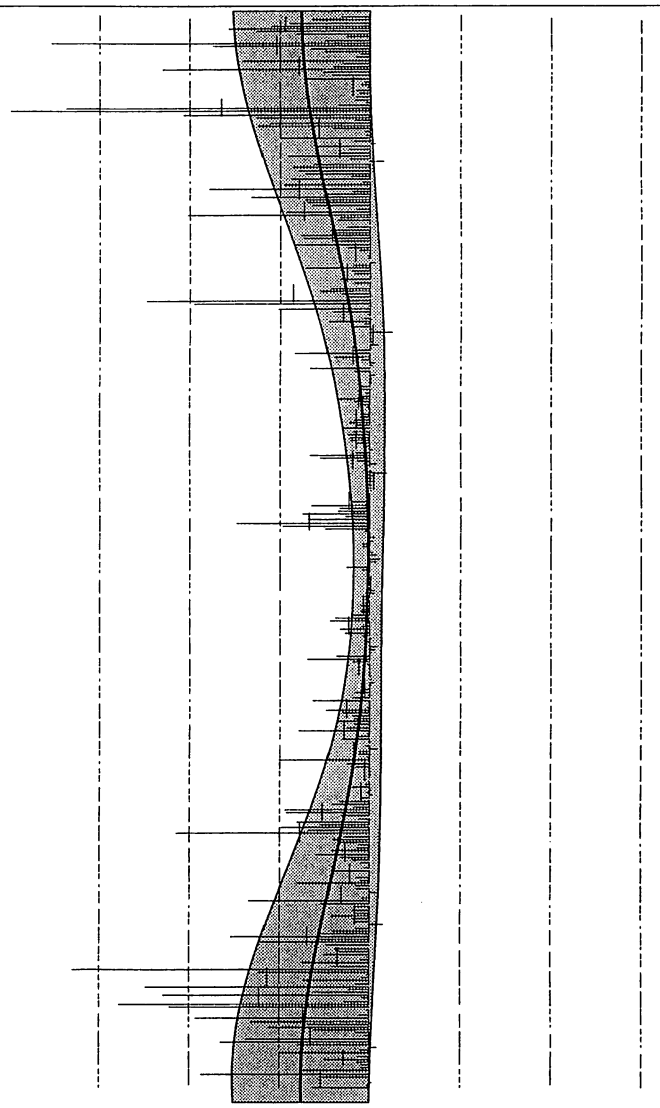
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-63	-130	-175	-219	-312	-249	-161	-187
10 JAN	-50	-97	-706	-349	-131	-100	-20	-208
17 JAN	-29	-281	-57	-83	-461	-100	-85	-156
24 JAN	-139	-9	-20	-3	-29	-24	-29	-36
31 JAN	-32	-11	-69	-673	-856	-411	-250	-329
7 FEB	-33	-221	-247	-82	-11	-6	-198	-114
14 FEB	-35	14	-119	-45	-66	-182	-45	-68
21 FEB	32	-123	-168	-158	-142	-43	-174	-111
28 FEB	-17	-191	-358	-40	-99	-262	-140	-158
6 MAR	-137	-125	-31	-184	-405	-68	-70	-146
13 MAR	-2	-48	-87	-83	-151	-145	-84	-86
20 MAR	-166	-48	-20	-2	-6	-4	13	-33
27 MAR	-37	-143	-40	-34	2	-64	-35	-50
3 APR	-3	-88	-110	-64	-46	-497	-391	-171
10 APR	-3	-205	-82	-8	-12	-92	-14	-59
17 APR	-37	4	49	2	8	7	17	7
24 APR	3	-28	-167	-79	-18	11	6	-39
1 MAY	-131	-31	13	5	4	4	-23	-23
8 MAY	-16	-6	-19	-69	-32	-20	-6	-24
15 MAY	0	-11	-20	-32	-44	-28	-60	-28
22 MAY	-36	-47	-43	-44	-27	-13	8	-29
29 MAY	-28	-133	-109	-27	19	0	6	-39
5 JUN	41	12	3	8	5	5	4	11
12 JUN	-3	-8	-2	-40	-130	-68	-72	-46
19 JUN	-148	-56	-138	-296	-193	-100	-9	-134
26 JUN	-3	9	6	-15	-15	0	7	-1
3 JUL	19	23	19	-5	-51	-19	-3	-3
10 JUL	2	3	1	-2	1	14	10	4
17 JUL	3	0	-9	-17	-3	-19	-39	-12
24 JUL	-77	-88	-6	-17	-66	-55	-14	-46
31 JUL	4	-7	0	18	13	6	-73	-6
7 AUG	-138	-36	-3	1	2	-3	5	-25
14 AUG	5	11	4	-12	-33	-5	-39	-10
21 AUG	-126	-1	-5	-96	-61	-39	-35	-52
28 AUG	-73	-31	-49	-157	-5	-25	-60	-57
4 SEP	-2	-8	19	-23	-23	-3	-200	-34
11 SEP	-49	-28	-2	3	5	1	-2	-10
18 SEP	-10	-38	6	-6	7	-19	-66	-18
25 SEP	-83	-34	-187	-185	-62	-22	-160	-105
2 OCT	-111	-195	-134	-430	-58	-79	-67	-153
9 OCT	-24	-27	-81	-117	-66	-38	-18	-53
16 OCT	-1	-11	-82	-3	-29	-17	-159	-43
23 OCT	-30	-27	17	-3	-19	-269	-108	-63
30 OCT	-33	-39	-32	-81	-37	-33	33	-32
6 NOV	-30	-81	-107	-307	-109	-243	-93	-138
13 NOV	-76	-65	-98	-4	-18	-145	-83	-70
20 NOV	-659	-246	-4	-15	-146	-29	-495	-227
27 NOV	-46	-125	-457	-15	-54	-553	-444	-242
4 DEC	-5	-3	-20	-385	-259	-136	-223	-147
11 DEC	-123	-29	-10	-274	-328	-158	17	-129
18 DEC	-19	-199	-22	-95	-26	-14	-19	-56
25 DEC	-148	-375	-105	-2	8	-8	-123	-108



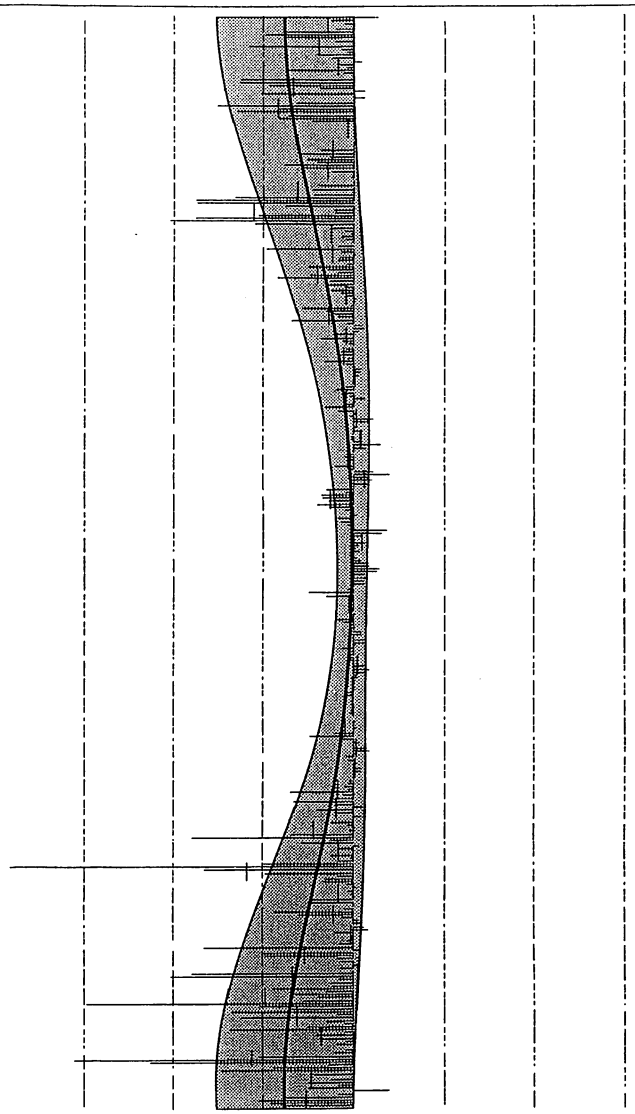
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	55	-46	-17	-2	-37	-155	-194	-57
8 JAN	-147	-41	-5	-228	-28	-14	-80	-78
15 JAN	-46	18	-30	-12	-149	-21	-3	-35
22 JAN	-248	-251	-186	-73	25	-205	23	-131
29 JAN	-2	-128	-303	-165	-257	-143	-162	-166
5 FEB	-92	-3	1	0	3	4	5	-12
12 FEB	7	8	3	-72	-114	-52	-101	-46
19 FEB	-79	-152	-110	-46	-2	-5	1	-56
26 FEB	2	-76	-91	-4	-87	-262	-349	-124
5 MAR	-345	-149	-44	-41	-209	-350	-408	-221
12 MAR	-217	-47	-17	-8	-24	-15	-5	-47
19 MAR	-32	-190	-28	5	-31	-36	-14	-46
26 MAR	-98	-56	-31	-97	-165	-53	-57	-79
2 APR	-18	-50	-26	-12	6	3	-5	-15
9 APR	-112	-60	-41	-31	-136	-13	17	-54
16 APR	25	10	-40	-70	-23	-11	1	-16
23 APR	-15	-26	-29	-11	-62	-16	6	-22
30 APR	16	14	12	2	-2	-2	-16	4
7 MAY	-35	-17	-8	23	5	-16	-62	-16
14 MAY	-33	9	-8	42	35	-1	11	8
21 MAY	18	-1	-6	-4	13	61	27	16
28 MAY	-1	-11	-17	-8	-3	-39	-14	-13
4 JUN	44	78	36	40	34	-9	-60	23
11 JUN	-16	-71	-67	-55	-80	-55	-17	-52
18 JUN	-6	8	-31	-26	-12	5	75	2
25 JUN	63	14	4	23	10	5	12	19
2 JUL	0	8	16	31	35	57	52	28
9 JUL	23	30	22	22	2	-13	-100	-2
16 JUL	-60	-9	1	2	-1	-3	3	-10
23 JUL	-8	-38	-21	-3	4	14	16	-5
30 JUL	0	28	24	4	-25	-13	-6	2
6 AUG	-8	-10	-3	20	35	28	6	10
13 AUG	10	5	5	4	-1	-14	-16	-1
20 AUG	-1	0	1	4	-5	-8	-1	-1
27 AUG	1	4	3	8	1	-43	-95	-17
3 SEP	-25	14	-1	30	36	4	-14	6
10 SEP	-10	9	2	16	16	3	1	5
17 SEP	-9	-10	-19	-9	-138	-21	-43	-35
24 SEP	-128	-41	18	-78	-41	16	-2	-37
1 OCT	-50	-10	5	-11	-135	-356	-49	-86
8 OCT	-113	11	-35	1	-48	-3	-32	-31
15 OCT	-195	-762	-329	-194	-35	-59	-65	-234
22 OCT	-13	6	-10	-5	-1	-95	-100	-31
29 OCT	5	-18	-171	-119	-24	9	22	-43
5 NOV	25	33	-40	-5	-8	-14	-30	-5
12 NOV	-330	16	-200	-193	-34	-23	10	-108
19 NOV	-27	-2	-358	-404	-33	-50	-45	-131
26 NOV	-177	-61	-127	-78	-110	-594	-204	-193
3 DEC	-133	-267	-36	-246	-61	-19	-102	-123
10 DEC	-274	-17	-83	-73	-15	-37	4	-71
17 DEC	-17	-43	-208	-622	-449	-54	-175	-224
24 DEC	-290	-85	-5	-47	-99	-31	-99	-94
31 DEC	80	-31	-150	-206	-179	-148	-103	-105

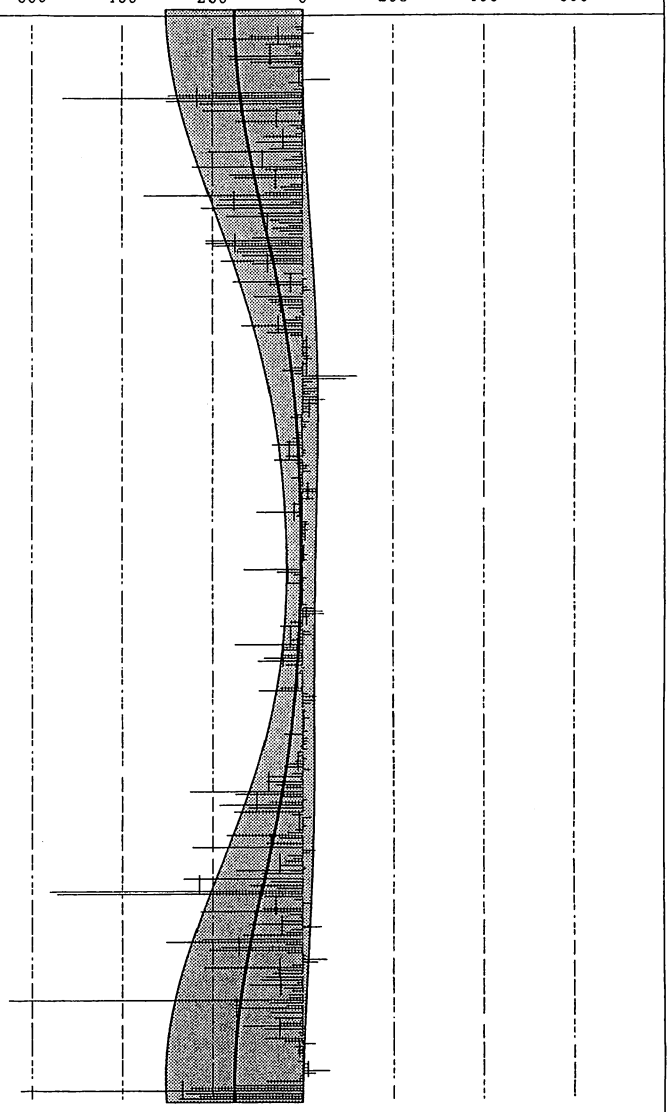


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1990 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-16	-13	25	-117	-188	1	-80	-55
14 JAN	-28	6	-15	-163	-161	-113	-15	-70
21 JAN	-73	-9	0	1	64	-29	-4	-7
28 JAN	-18	-202	-297	-530	-301	-227	-49	-232
4 FEB	-218	-10	8	6	-145	-23	-13	-56
11 FEB	3	-11	-84	-1	-101	-40	-71	-43
18 FEB	-207	-6	-21	-40	-13	-244	-79	-87
25 FEB	7	-160	-151	3	-28	-45	-40	-59
4 MAR	-81	-350	-182	-25	-189	-223	-6	-151
11 MAR	-95	-169	-70	-51	-30	-65	-50	-76
18 MAR	-30	-109	-214	-214	-196	-140	-144	-149
25 MAR	-131	-69	-179	-110	1	0	-40	-75
1 APR	2	11	-154	-71	10	18	-4	-27
8 APR	-105	-73	-67	-56	-33	-5	3	-48
15 APR	-16	-40	-37	-135	-59	-76	-26	-56
22 APR	-2	9	3	18	2	14	15	8
29 APR	21	0	6	-21	-43	-19	120	9
6 MAY	96	23	9	34	37	17	33	35
13 MAY	53	32	18	22	13	-10	-27	14
20 MAY	15	9	9	0	-6	-13	-20	-1
27 MAY	-34	-68	-14	7	7	-36	-63	-29
3 JUN	-14	15	11	18	0	-23	0	1
10 JUN	3	0	35	31	-7	24	-4	12
17 JUN	-22	0	-6	-101	-12	2	11	-18
24 JUN	16	7	13	8	3	5	3	8
1 JUL	1	3	3	9	7	11	-2	4
8 JUL	1	-131	-57	-19	11	6	-33	-32
15 JUL	0	6	0	-2	-1	2	9	2
22 JUL	25	47	48	15	3	-26	-47	9
29 JUL	-1	19	20	-9	-28	-150	-44	-27
5 AUG	-42	-9	-39	-84	-98	-37	5	-43
12 AUG	-3	-15	-2	-1	1	-2	-52	-10
19 AUG	-95	14	32	30	17	2	2	0
26 AUG	9	0	16	3	3	-2	3	5
2 SEP	11	-41	11	11	10	-4	10	1
9 SEP	-7	-8	9	-17	-30	-41	18	-11
16 SEP	-24	-80	-3	-79	-58	-39	-250	-76
23 SEP	-149	-44	10	-73	-184	-118	-151	-101
30 SEP	-24	18	-2	-1	11	-16	-31	-6
7 OCT	-167	-52	-1	-83	-243	29	17	-71
14 OCT	-33	-20	-38	-51	6	-145	-90	-53
21 OCT	-3	-262	-71	-112	-57	-561	-544	-230
28 OCT	-85	-19	23	-2	-91	-226	-27	-61
4 NOV	-7	-43	-117	43	-24	-35	-132	-45
11 NOV	-222	-302	-38	-179	-206	-34	7	-139
18 NOV	54	34	-24	-219	-55	-65	-81	-51
25 NOV	-90	-12	-115	-39	-23	-28	-29	-48
2 DEC	-652	-72	-35	-139	-70	2	-63	-147
9 DEC	-5	-53	-129	-84	-9	-3	-84	-52
16 DEC	-41	29	-18	-9	-9	1	2	-7
23 DEC	-9	9	13	61	30	-5	-7	13
30 DEC	-81	-153	-246	-624	-257	-228	-273	-266



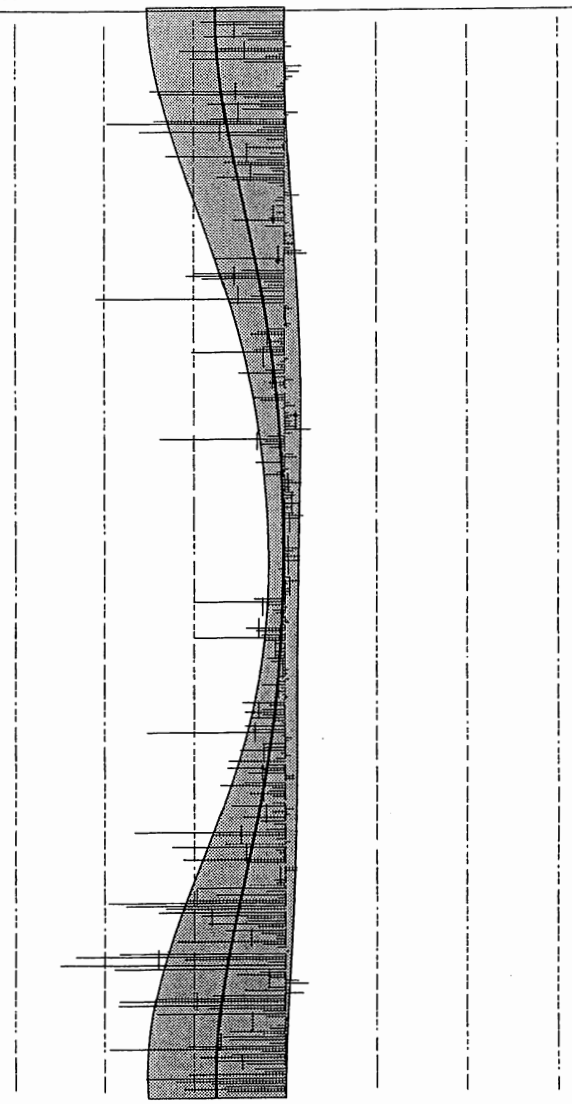
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-182	-145	-76	-24	-90	-174	-77	-109
13 JAN	6	16	-145	-230	-11	-41	-206	-87
20 JAN	-89	37	9	33	5	19	9	3
27 JAN	-7	-16	-8	-295	-279	-89	-51	-106
3 FEB	-165	-56	-89	29	10	-160	-287	-103
10 FEB	-394	-46	-61	-320	-127	-37	4	-140
17 FEB	-5	-80	1	-29	-262	-59	-133	-81
24 FEB	-105	-28	-23	-69	-146	-117	-35	-75
3 MAR	-9	3	9	31	-13	-17	-1	0
10 MAR	-16	2	-15	3	-32	-113	7	-23
17 MAR	-41	-2	7	20	0	5	19	1
24 MAR	13	38	50	0	-155	-22	-3	-12
31 MAR	4	-92	-199	-215	-178	-43	-36	-108
7 APR	-45	-58	2	-71	-418	-118	7	-100
14 APR	15	2	-2	-3	2	13	6	5
21 APR	-37	-58	-73	-11	-29	-6	-47	-37
28 APR	-66	-205	-27	6	-8	-18	-7	-46
5 MAY	-41	-100	-21	19	-34	-10	5	-26
12 MAY	1	-25	-65	-54	11	20	-8	-17
19 MAY	8	29	10	14	12	26	57	22
26 MAY	16	-35	-278	-43	-55	-31	0	-61
2 JUN	19	27	-7	-64	-2	8	-15	-5
9 JUN	-40	-11	16	38	12	10	19	6
16 JUN	21	17	2	31	13	0	20	15
23 JUN	41	29	-1	-6	-1	2	1	9
30 JUN	-1	-7	-8	0	30	18	10	6
7 JUL	32	33	3	-5	-11	1	0	7
14 JUL	11	32	5	-2	6	9	3	9
21 JUL	-69	-201	-40	4	-24	-18	-1	-50
28 JUL	5	7	-4	-86	-61	-53	-199	-56
4 AUG	-45	-18	-2	-6	-22	-21	-38	-21
11 AUG	-30	-14	0	7	4	-9	10	-5
18 AUG	-14	-48	-10	-12	-5	8	-1	-11
25 AUG	-93	-31	-49	-87	-48	-73	-25	-58
1 SEP	-4	-87	-71	-304	-6	12	8	-65
8 SEP	-48	-43	-99	-9	12	-18	-124	-47
15 SEP	-37	-127	-48	-80	22	21	-88	-48
22 SEP	-140	-26	-34	-77	-27	1	-26	-47
29 SEP	-116	19	-27	10	-90	-56	-24	-41
6 OCT	1	-40	-333	-151	-19	10	-131	-95
13 OCT	-250	-20	-10	-4	-225	-79	2	-84
20 OCT	25	25	-1	-1	-24	-17	-77	-10
27 OCT	-187	-41	-149	-13	-216	-389	-351	-192
3 NOV	-263	-279	-182	-82	-78	-167	-59	-158
10 NOV	-129	-51	-18	-19	-236	-49	-16	-74
17 NOV	8	-365	-463	-221	-37	-499	-378	-279
24 NOV	-54	-107	-36	30	52	-37	-89	-34
1 DEC	42	-158	-284	-367	-369	-169	-47	-193
8 DEC	-282	-41	5	1	-19	-31	-120	-70
15 DEC	-47	-135	-120	-34	-214	-387	-50	-141
22 DEC	-116	-185	-153	-82	4	-65	-47	-92
29 DEC	-212	-308	-241	-160	-130	-223	-126	-200

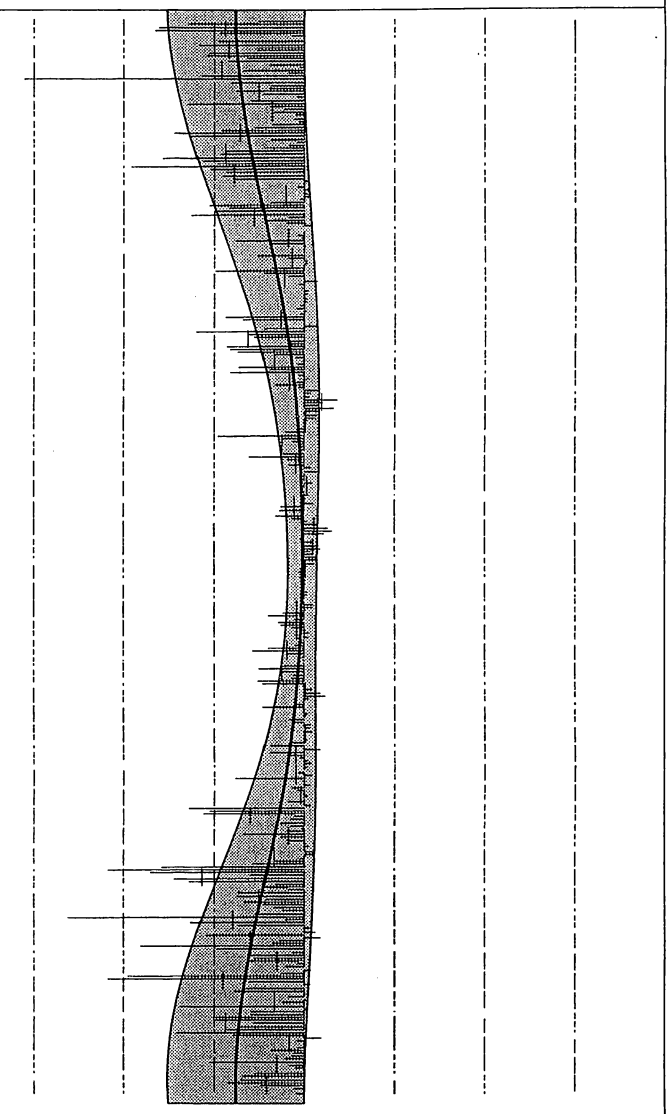


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1992 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-98	-253	-322	-328	-186	-26	2	-173
12 JAN	-187	-232	-98	-102	-210	-212	-122	-166
19 JAN	-168	-73	-10	-134	-36	-227	-620	-181
26 JAN	-161	-73	-76	-150	-91	-17	-117	-98
2 FEB	-256	-78	-42	-65	-17	-22	-9	-70
9 FEB	-70	-108	-183	-288	-254	-73	-16	-142
16 FEB	-33	-89	-172	-185	-313	-223	-193	-172
23 FEB	-381	-206	-171	-181	-155	9	-1	-155
1 MAR	-12	10	8	11	-9	-73	-209	-39
8 MAR	-165	-198	-249	-34	-87	-41	15	-108
15 MAR	2	-2	-13	-8	-149	-75	5	-34
22 MAR	2	0	-101	-34	8	8	-72	-27
29 MAR	-195	-89	-36	1	32	-9	-4	-43
5 APR	11	9	2	6	6	-8	-15	2
12 APR	7	-6	-174	-135	3	31	-87	-52
19 APR	-238	-120	-111	-34	-31	-171	-163	-124
26 APR	-146	-63	-17	-2	-12	-144	-77	-66
3 MAY	-162	-10	2	-16	-66	-12	32	-33
10 MAY	17	14	74	43	34	64	34	40
17 MAY	30	26	11	7	-3	-10	-39	3
24 MAY	-192	-47	-23	-10	-10	-6	-45	-48
31 MAY	-120	-37	-1	-32	19	34	4	-19
7 JUN	1	2	22	3	1	3	10	6
14 JUN	5	6	20	-53	-54	-2	-62	-20
21 JUN	-27	6	29	54	61	46	2	24
28 JUN	-7	17	34	38	15	20	30	21
5 JUL	29	24	6	-8	-9	-1	-10	5
12 JUL	5	4	-5	-5	9	7	-6	1
19 JUL	-1	20	20	4	-46	-80	-22	-15
26 JUL	-58	-52	-26	5	10	11	-1	-16
2 AUG	-6	-17	-81	-113	-36	-7	-1	-37
9 AUG	-2	-44	-98	-45	-23	-26	-101	-48
16 AUG	-90	-1	18	38	48	9	-1	3
23 AUG	-20	-91	-1	9	4	-31	-26	-22
30 AUG	14	14	17	3	4	8	-24	5
6 SEP	-74	37	-74	-33	-6	10	19	-17
13 SEP	8	0	-11	18	-151	-4	13	-18
20 SEP	-27	-13	-2	9	2	-35	14	-7
27 SEP	-255	-210	-225	-22	-30	-52	-28	-117
4 OCT	-5	-36	-133	-52	-36	7	11	-35
11 OCT	2	23	22	-7	-65	-112	-315	-64
18 OCT	-434	-339	-116	-287	-253	-64	-91	-226
25 OCT	-34	-142	-145	-86	-128	-91	-64	-99
1 NOV	-46	-108	-524	-40	-252	-142	13	-157
8 NOV	26	-215	38	-56	-69	-362	-194	-119
15 NOV	-26	-122	-109	-119	-14	-39	15	-59
22 NOV	-50	-389	-434	-122	16	-128	-154	-180
29 NOV	1	-36	5	-45	-274	10	-116	-65
6 DEC	-114	-202	-202	-111	-142	-171	-282	-175
13 DEC	-156	39	-12	7	-13	-75	-22	-33
20 DEC	-25	-44	-210	-30	-19	6	-106	-61
27 DEC	-135	-137	-170	-94	-21	-2	-16	-82



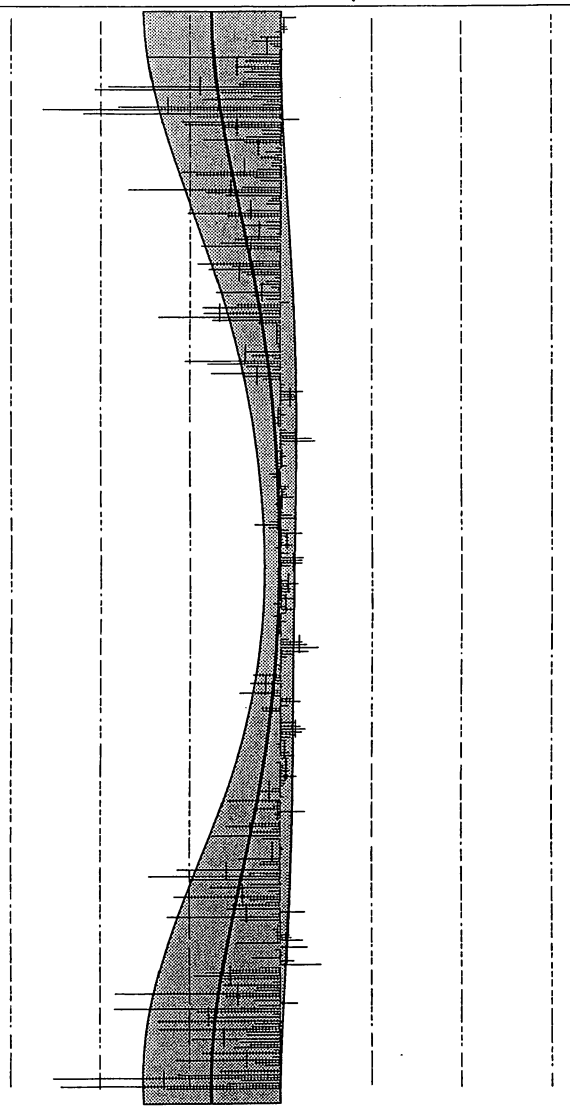
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	35	1	3	11	14	-10	-2	8
10 JAN	-44	-61	-24	-11	5	-2	-63	-29
17 JAN	-291	-76	-19	-100	-62	-79	-48	-96
24 JAN	-70	-83	-94	-383	-413	-133	-61	-177
31 JAN	-172	-28	-36	-359	-528	-437	-183	-249
7 FEB	40	-216	-213	-123	-41	-41	-72	-95
14 FEB	-169	-80	1	-10	-32	-9	-43	-49
21 FEB	-13	-18	-19	-51	-219	-187	-56	-80
28 FEB	-44	-3	-84	-337	-162	-121	-18	-110
7 MAR	-27	-29	-1	-74	-205	-117	-1	-65
14 MAR	-30	-81	-26	-2	-8	-83	-100	-47
21 MAR	-132	-172	-76	-7	2	-3	-60	-64
28 MAR	-181	-103	-157	-86	-73	-9	-32	-92
4 APR	-43	-17	-5	-140	-61	-28	18	-39
11 APR	-95	-170	-36	-169	-270	-149	-46	-133
18 APR	-6	-2	-6	-8	-8	-2	-8	-6
25 APR	-7	0	-77	-60	-13	-210	-160	-75
2 MAY	-75	-16	-152	-82	-38	2	8	-50
9 MAY	7	48	29	33	29	2	-2	21
16 MAY	1	4	9	-8	-6	-16	-5	-3
23 MAY	9	28	34	68	77	7	-3	31
30 MAY	-3	7	9	0	2	13	-6	3
6 JUN	-1	-23	-18	1	-4	17	13	-2
13 JUN	6	11	26	-1	-11	-2	2	5
20 JUN	6	24	30	-24	-58	-26	14	-5
27 JUN	45	13	3	7	23	-11	1	11
4 JUL	17	49	45	46	19	2	2	26
11 JUL	-1	1	16	39	18	21	18	16
18 JUL	7	26	5	-17	11	25	9	9
25 JUL	-17	1	9	2	-2	-7	-4	-3
1 AUG	1	17	45	58	81	60	23	40
8 AUG	13	-1	1	-9	-5	-2	-59	-9
15 AUG	-14	-9	-66	0	-18	-91	-18	-31
22 AUG	23	43	16	-40	-37	1	-2	1
29 AUG	5	28	43	53	46	28	22	32
5 SEP	12	-7	0	-1	17	30	19	10
12 SEP	-8	7	9	17	7	36	13	12
19 SEP	9	7	-16	-47	1	6	-117	-22
26 SEP	4	-12	-58	56	-9	-8	1	-4
3 OCT	-62	-122	-17	-67	-150	-39	-1	-65
10 OCT	-1	3	7	4	2	-89	-36	-16
17 OCT	-42	-1	-226	-65	-290	-198	-3	-118
24 OCT	-63	-154	-23	-6	-235	-66	-30	-82
31 OCT	-106	-115	54	-14	-248	-89	8	-73
7 NOV	0	-15	-11	20	25	48	-96	-4
14 NOV	60	-10	0	6	-61	29	91	17
21 NOV	-44	-111	-163	-189	-124	-15	-124	-110
28 NOV	-51	-56	-365	-121	-58	37	-47	-94
5 DEC	-369	-184	-12	-155	-268	-54	-60	-157
12 DEC	-269	-73	-70	-192	-88	-66	-103	-123
19 DEC	-11	-172	-14	-229	-54	-32	0	-73
26 DEC	-129	-224	-504	-84	-115	-488	-249	-256



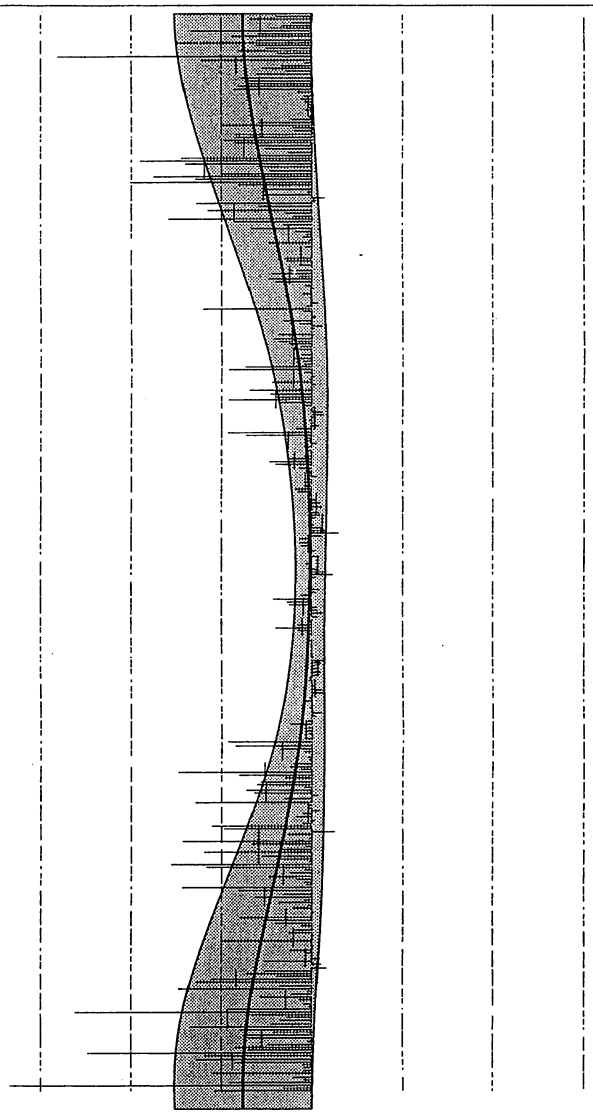
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-77	-136	-43	-64	-89	-266	-116	-113
9 JAN	-175	-121	-297	-121	-98	-160	-73	-149
16 JAN	-563	-242	-12	-65	-109	-55	-121	-166
23 JAN	-154	-137	-144	-160	-171	-32	-15	-116
30 JAN	-20	-11	-5	-6	-13	1	-3	-8
6 FEB	-43	-119	-197	-39	-37	-165	-166	-109
13 FEB	-191	-167	-118	-104	-52	-121	-288	-149
20 FEB	-380	-280	-117	-92	-198	-348	-257	-239
27 FEB	-402	-161	-104	-10	-103	30	8	-106
6 MAR	-255	-118	-230	-58	-41	-315	-170	-170
13 MAR	-63	-131	-34	-9	-17	-5	-95	-50
20 MAR	-11	-2	-2	-2	-61	-55	-27	-23
27 MAR	4	-49	-87	-28	-93	-79	-12	-49
3 APR	4	-1	-17	0	1	13	-10	-1
10 APR	-241	-19	-3	9	-61	-26	20	-46
17 APR	3	0	-72	-82	-71	-49	-25	-42
24 APR	-44	0	-21	-41	-17	-15	-146	-40
1 MAY	-183	-15	6	-4	-89	7	-2	-40
8 MAY	-139	-89	-76	-182	-71	-13	7	-81
15 MAY	25	26	11	-5	7	14	-32	6
22 MAY	-184	-143	-14	-13	10	-15	-10	-53
29 MAY	3	-15	-50	-93	-79	-26	-10	-39
5 JUN	-4	10	0	-15	-14	-36	-29	-12
12 JUN	-6	3	9	19	23	4	17	10
19 JUN	18	9	3	8	24	34	61	22
26 JUN	21	-26	-27	-24	3	7	2	-6
3 JUL	15	0	-14	-1	12	33	45	13
10 JUL	9	1	0	3	18	10	-23	3
17 JUL	-84	-54	-48	10	11	20	13	-19
24 JUL	4	-6	-30	-79	-30	0	1	-20
31 JUL	2	0	-1	1	-1	-2	5	1
7 AUG	30	19	8	17	17	9	-5	13
14 AUG	-7	1	8	20	24	3	-3	7
21 AUG	-15	0	-3	5	20	8	0	2
28 AUG	-7	-46	-7	-9	-8	5	-7	-11
4 SEP	-184	-168	-69	-19	2	-8	-3	-64
11 SEP	-42	-46	-22	-294	-161	-61	-112	-105
18 SEP	-122	-15	-143	-128	12	-59	-257	-102
25 SEP	-5	-6	14	-17	-33	6	-17	-8
2 OCT	-220	-193	51	-55	-5	-284	-129	-119
9 OCT	-13	-67	-238	-111	-80	-3	-309	-117
16 OCT	-232	-16	-47	-94	-33	-14	-10	-64
23 OCT	-284	-159	-60	-123	-18	-71	-8	-103
30 OCT	-42	5	-3	-157	-107	-79	-22	-58
6 NOV	-38	-50	3	0	-198	-1	5	-40
13 NOV	-48	-12	-1	18	-105	22	32	-14
20 NOV	-100	-141	-76	-221	-257	-72	-293	-166
27 NOV	-8	-44	-114	-28	-16	-7	-183	-57
4 DEC	-523	-142	-55	-69	-89	-268	-157	-186
11 DEC	-83	-150	-138	-6	-97	-164	-136	-110
18 DEC	-497	-238	-256	-169	-20	-16	-18	-173
25 DEC	-214	-40	-19	-179	-667	-63	-212	-199



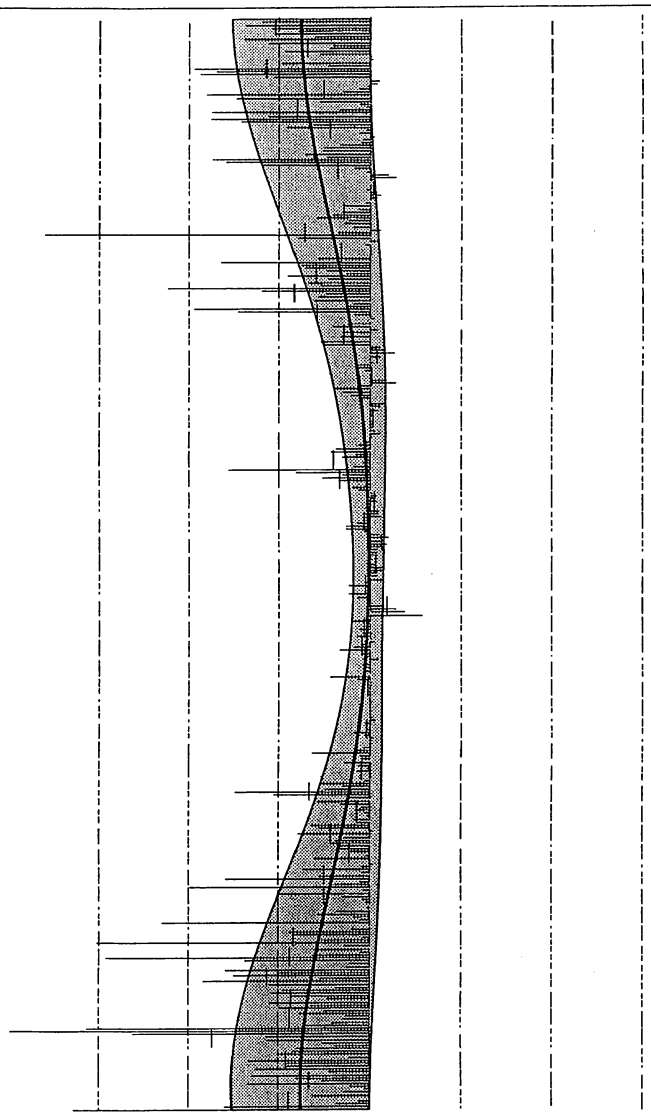
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 57N, 137W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-238	-234	-270	-212	-157	-206	-122	-206
8 JAN	-274	-221	-78	-87	-186	-110	4	-136
15 JAN	6	-194	-90	-388	-336	-375	-209	-227
22 JAN	21	15	-8	-25	-57	-359	-294	-101
29 JAN	-109	-22	-6	-65	-348	-221	-348	-160
5 FEB	-281	-124	-178	-6	-22	9	-15	-88
12 FEB	-17	-65	-98	-105	-144	-93	-345	-124
19 FEB	-314	-238	-31	-8	40	58	5	-70
26 FEB	1	0	-7	15	23	16	2	7
5 MAR	-10	-53	-25	-61	-82	-115	-46	-56
12 MAR	-56	-35	25	-70	-725	-158	18	-143
19 MAR	-9	2	1	1	0	-113	-328	-64
26 MAR	-148	-140	-93	-51	-179	-90	-134	-119
2 APR	-108	-447	-238	-95	-113	-120	-34	-165
9 APR	-54	-387	-292	-32	10	0	-49	-115
16 APR	-79	16	-57	-62	-2	-108	-99	-56
23 APR	24	35	54	23	-1	7	-27	16
30 APR	-23	-9	-3	2	37	56	-24	5
7 MAY	-77	-57	-41	-15	1	32	21	-19
14 MAY	19	4	4	-1	7	8	5	6
21 MAY	12	22	4	-3	-13	-23	-73	-10
28 MAY	-86	-30	-60	-11	-16	-35	-309	-78
4 JUN	-162	-59	-103	-69	-6	-37	-23	-65
11 JUN	3	15	12	14	4	-10	21	9
18 JUN	19	24	1	-26	-53	-51	-11	-14
25 JUN	21	41	24	38	23	15	16	25
2 JUL	6	3	3	12	25	28	15	13
9 JUL	16	28	-12	-45	-6	-7	-45	-10
16 JUL	-28	1	8	33	58	76	115	38
23 JUL	1	-37	-2	-8	-24	6	-26	-13
30 JUL	4	9	-17	-33	-67	-14	-5	-17
6 AUG	18	3	-14	-4	-13	2	-88	-14
13 AUG	-28	4	4	1	-5	-1	1	-3
20 AUG	-2	4	1	2	3	0	8	2
27 AUG	13	-9	-1	-6	-36	-14	7	-6
3 SEP	1	0	-12	-33	-126	-21	-19	-30
10 SEP	-54	-24	-8	-26	2	0	-10	-17
17 SEP	-102	-58	-97	-297	-210	-48	-114	-132
24 SEP	-63	-17	-28	-10	-6	-32	-26	-26
1 OCT	-126	-111	7	-157	-56	-73	-85	-86
8 OCT	-68	-72	-42	-6	-122	1	7	-43
15 OCT	-19	-146	-15	-110	-315	-19	-73	-100
22 OCT	-397	-14	-200	-56	-15	-6	1	-98
29 OCT	-5	-71	-111	-36	-17	-457	-1	-100
5 NOV	-37	-175	-167	-14	-103	-604	-55	-165
12 NOV	-118	-19	-122	-585	-273	-43	-50	-173
19 NOV	-316	-197	-299	-107	-364	-218	-72	-225
26 NOV	-191	-213	-167	-92	-218	-127	-195	-172
3 DEC	-100	-155	-53	-56	-79	-142	-627	-173
10 DEC	-1105	-522	-228	-223	-103	-76	-160	-345
17 DEC	-168	-199	-43	-265	-177	-180	-249	-183
24 DEC	-87	-257	-161	-104	-265	-42	-10	-132
31 DEC	-55	-123	1	-21	-70	-319	-658	-178

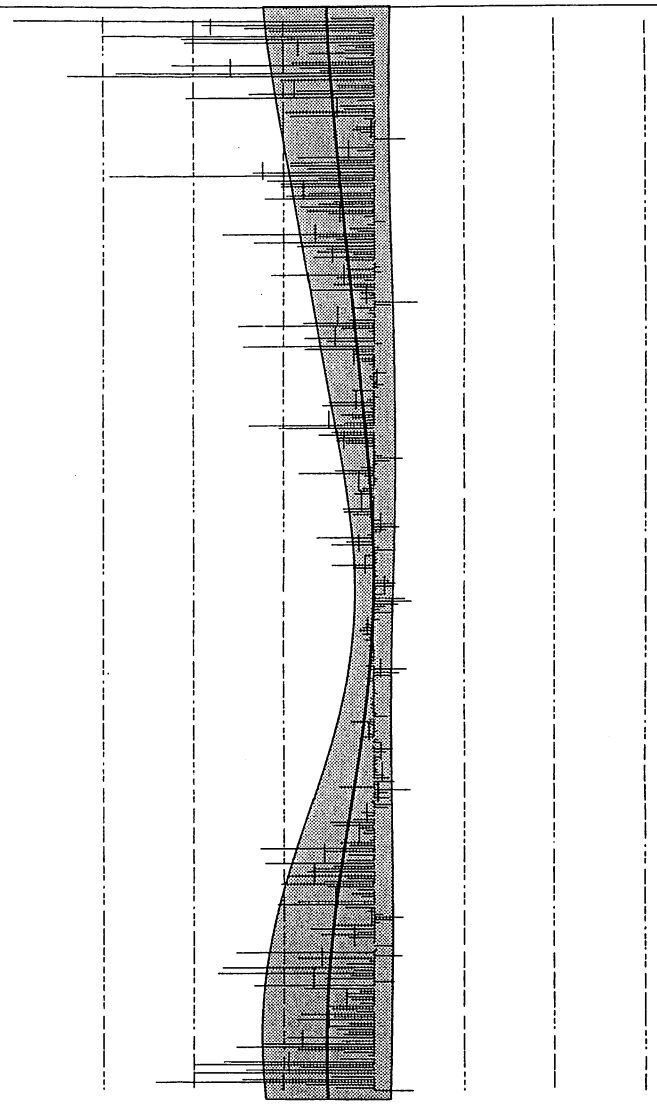


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-91	-901	-378	-284	-229	-28	-601	-359
12 JAN	-427	-417	-75	-38	-61	-139	-3	-166
19 JAN	-58	-179	-446	-161	-114	-571	-681	-316
26 JAN	-204	-5	-78	-75	-168	-278	-416	-175
2 FEB	-33	-3	-70	-61	-194	-182	-19	-80
9 FEB	5	1	-37	-46	-25	-7	72	-5
16 FEB	-1	-11	-86	-36	-4	-166	-81	-55
23 FEB	-181	-183	-145	-267	-585	-120	-235	-245
2 MAR	-205	-203	-5	-144	-194	-239	-87	-154
9 MAR	-122	-160	-147	-100	-17	-2	23	-75
16 MAR	-13	-52	-32	-334	-123	-82	-266	-129
23 MAR	-169	-104	-126	-42	-133	-63	5	-90
30 MAR	12	-61	15	-228	-82	-17	-88	-64
6 APR	-41	-140	-30	-7	-27	97	38	-16
13 APR	-47	-7	-7	4	-52	-155	-298	-80
20 APR	-68	-9	1	-150	-100	17	-287	-85
27 APR	-153	-47	-45	-33	-25	-6	-3	-44
4 MAY	-1	25	-7	-4	11	24	10	8
11 MAY	-46	2	12	-12	-99	-112	-3	-37
18 MAY	-18	-71	-46	-13	-62	-278	-211	-100
25 MAY	-93	-120	-81	-82	-60	-19	2	-65
1 JUN	3	18	64	34	10	-28	-84	2
8 JUN	-165	-18	7	6	-4	-23	-30	-32
15 JUN	-39	0	1	-4	-9	-69	-65	-26
22 JUN	-43	-8	16	44	56	25	14	15
29 JUN	-13	-126	-60	-94	11	47	7	-33
6 JUL	-20	6	6	-92	-47	8	4	-19
13 JUL	9	33	48	47	7	1	19	23
20 JUL	72	85	53	25	12	38	6	42
27 JUL	13	2	-16	-22	-29	-21	-10	-12
3 AUG	-19	-3	-9	-4	4	2	0	-4
10 AUG	-11	-10	-16	75	57	34	-16	16
17 AUG	-8	5	0	6	7	0	-5	1
24 AUG	-1	-7	-3	-1	10	30	-11	3
31 AUG	-48	-3	-2	7	-12	-20	9	-10
7 SEP	11	-1	44	25	1	12	9	14
14 SEP	6	0	10	9	20	36	45	18
21 SEP	7	-76	83	28	7	32	-3	11
28 SEP	36	29	3	-27	-14	-45	-96	-16
5 OCT	-87	-30	-15	-20	2	-6	-72	-33
12 OCT	-56	-252	-111	-54	-1	-59	-239	-110
19 OCT	-89	-133	-145	-192	-58	-109	-204	-133
26 OCT	-101	-36	-49	-25	5	-167	-214	-84
2 NOV	-61	-14	18	66	40	14	-87	-4
9 NOV	-137	-34	-114	-53	1	-2	41	-43
16 NOV	9	-305	63	-168	-10	-60	-336	-115
23 NOV	-44	-346	-53	-106	45	-266	-151	-132
30 NOV	-33	-57	-61	-48	-29	-106	-91	-61
7 DEC	-37	-160	-87	-168	-54	-104	-82	-99
14 DEC	-57	-65	-190	-70	-243	-304	-169	-157
21 DEC	-64	-11	-74	-331	-399	-160	-281	-189
28 DEC	-399	-93	-290	-484	-149	-82	87	-201



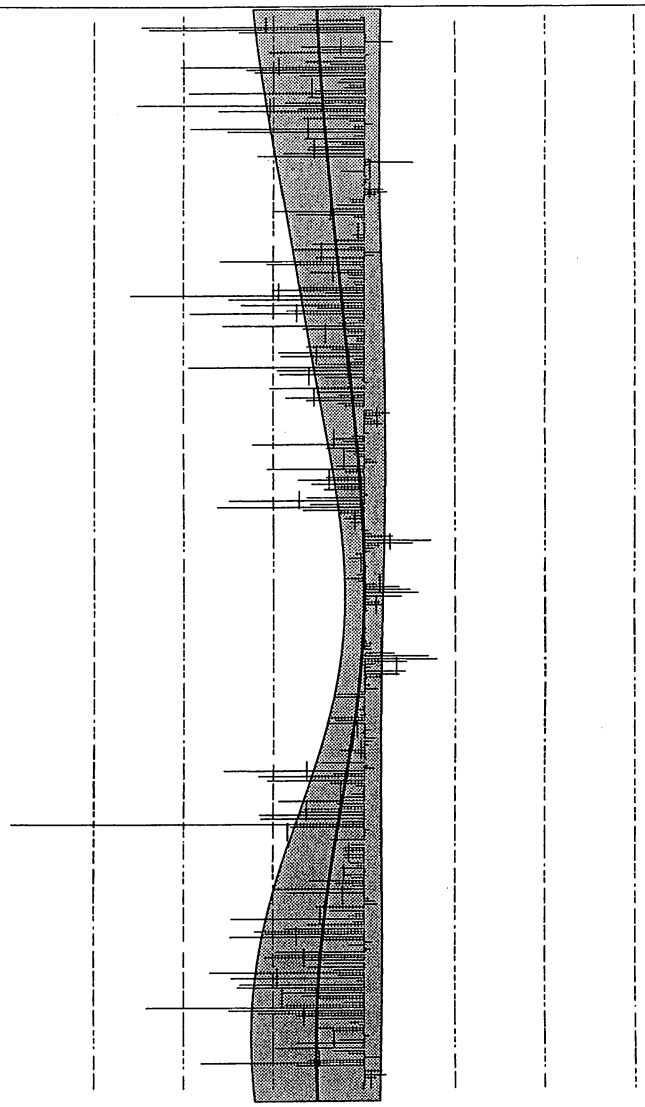
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	-7	-116	-142	-494	-478	-277	5	-216
11 JAN	7	63	0	-140	-92	-211	9	-52
18 JAN	-64	-130	-73	-407	-260	-239	-144	-188
25 JAN	-50	-57	-34	-44	-107	-387	-124	-115
1 FEB	-93	-174	-504	-147	-324	-77	-131	-207
8 FEB	-31	19	-22	-385	-301	-22	-130	-125
15 FEB	-83	-46	-122	-123	-178	-235	14	-110
22 FEB	108	9	3	-48	-1	4	14	13
1 MAR	7	-5	43	53	26	-2	-30	13
8 MAR	-28	-56	-69	-201	-149	-20	-1	-75
15 MAR	-3	1	0	6	-25	-10	-63	-14
22 MAR	-111	-32	-155	39	20	-104	-318	-94
29 MAR	-214	-7	-47	-114	-31	-33	-23	-67
5 APR	-17	-140	-203	-86	-518	-299	-46	-187
12 APR	-271	-101	-170	-384	-44	-9	-56	-148
19 APR	-312	-135	-35	-37	-16	-14	-39	-84
26 APR	-127	-71	-186	-181	-22	-38	-98	-103
3 MAY	-387	-190	-184	-85	-5	9	-1	-120
10 MAY	-207	-104	-55	-173	-128	-56	-43	-109
17 MAY	19	57	38	18	32	41	-2	29
24 MAY	0	9	-26	-67	-43	-245	-83	-65
31 MAY	-37	-22	-16	15	27	-61	-214	-44
7 JUN	-41	-2	-83	-147	-115	-58	-88	-76
14 JUN	2	7	-127	-298	-118	-324	-134	-142
21 JUN	-53	-24	-43	-28	-1	-3	9	-21
28 JUN	15	63	146	107	32	22	12	57
5 JUL	-20	-33	-1	-6	7	6	2	-6
12 JUL	-16	-44	-13	27	77	102	119	36
19 JUL	81	9	33	44	5	6	3	26
26 JUL	0	-3	-5	0	4	3	-2	0
2 AUG	-1	3	19	13	16	65	140	36
9 AUG	160	93	21	14	90	75	39	70
16 AUG	4	-3	9	29	-12	-58	-64	-14
23 AUG	3	-1	-4	-13	-3	-7	-76	-14
30 AUG	-62	-82	0	13	-8	2	24	-16
6 SEP	14	9	-3	-55	-22	-1	4	-8
13 SEP	-93	8	21	-310	-69	-232	-213	-127
20 SEP	-74	-18	-1	-4	-27	-40	-187	-50
27 SEP	-58	-51	-129	-144	-229	-228	-45	-126
4 OCT	-786	-162		13	6	-3	-70	-167
11 OCT	-28	-43	-43	-43	-43	-2	-30	-33
18 OCT	-12	-50	5	-46	-25	-122	-60	-44
25 OCT	-25	-199	-166	0	11	23	30	-47
1 NOV	-107	-73	-18	-31	-294	-20	-126	-95
8 NOV	-174	-241	-215	-296	-93	18	-32	-147
15 NOV	16	-193	-194	-216	-135	-86	-120	-133
22 NOV	-66	-341	-57	-292	-17	-273	-279	-189
29 NOV	-132	-180	-137	-101	-42	-175	-483	-179
6 DEC	-298	-235	-148	-100	-32	-10	-108	-133
13 DEC	-72	-4	10	-53	-150	-5	-192	-67
20 DEC	-67	-32	33	-124	-360	-148	-1	-100
27 DEC	40	47	28	1	-4	-4	-5	15



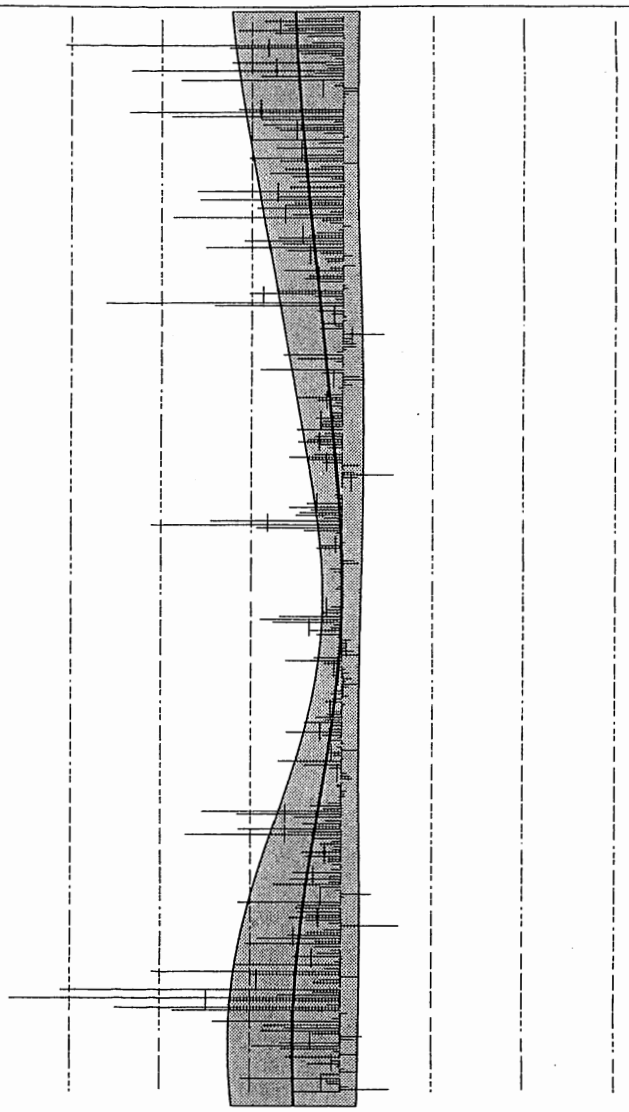
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-82	-171	-130	-118	-229	-150	-77	-137
10 JAN	6	-65	-613	-250	-97	-94	-24	-162
17 JAN	-14	-244	-35	-31	-465	-61	-180	-147
24 JAN	-357	-3	-20	30	34	14	2	-43
31 JAN	-1	5	-2	-229	-470	-376	-178	-179
7 FEB	-18	-174	-147	-140	-41	11	-200	-101
14 FEB	-51	2	-147	-12	-87	-205	-138	-91
21 FEB	31	-48	-127	-159	-111	-24	-96	-76
28 FEB	-7	-116	-320	8	-140	-312	-107	-142
6 MAR	-124	-188	-27	-109	-374	-43	-27	-127
13 MAR	17	-11	-58	-73	-140	-215	-129	-87
20 MAR	-301	-120	-50	21	-36	-32	27	-70
27 MAR	-26	-129	-3	-75	-83	-55	6	-52
3 APR	10	-145	-205	-60	-16	-525	-281	-174
10 APR	1	-55	-25	8	7	-44	-15	-18
17 APR	-50	5	93	22	16	29	29	21
24 APR	10	-13	-128	-95	-13	2	3	-34
1 MAY	-179	-43	37	42	7	22	-7	-17
8 MAY	-1	-38	-95	-56	-13	-22	-6	-33
15 MAY	-20	-22	-57	-41	-43	-43	-98	-46
22 MAY	-38	-58	-73	-95	-50	-26	2	-48
29 MAY	-61	-116	-77	-42	39	4	27	-32
5 JUN	114	36	1	-2	1	2	0	22
12 JUN	-13	-10	2	-76	-117	-68	-94	-54
19 JUN	-100	-39	-290	-421	-188	-82	-9	-161
26 JUN	-1	-1	7	-46	-53	-5	3	-14
3 JUL	4	25	37	-3	-25	-17	-3	3
10 JUL	4	-1	-1	-8	-10	1	6	-1
17 JUL	4	-1	-3	-21	-30	-42	-136	-33
24 JUL	-178	-151	-16	-20	-69	-53	-6	-70
31 JUL	21	12	12	11	26	39	-59	9
7 AUG	-122	-41	1	10	14	5	22	-16
14 AUG	10	35	15	-16	-20	15	-18	3
21 AUG	-35	7	-2	-20	-29	-55	-36	-24
28 AUG	-83	-22	-28	-121	-41	-7	-20	-46
4 SEP	7	-7	34	-18	-15	3	-140	-19
11 SEP	-80	-24	-1	14	22	23	4	-6
18 SEP	-8	-1	14	6	11	-1	-27	-1
25 SEP	-65	-37	-308	-230	-102	-32	-83	-122
2 OCT	-56	-228	-116	-343	-58	-19	-44	-123
9 OCT	-11	-16	-85	-74	-26	-25	-15	-36
16 OCT	-1	-19	-103	-22	-109	-23	-145	-60
23 OCT	-42	-11	68	7	-3	-225	-93	-43
30 OCT	-99	-93	-75	-111	-73	-23	129	-49
6 NOV	-34	-76	-115	-181	-56	-211	-55	-104
13 NOV	-21	-49	-105	7	-9	-231	-33	-63
20 NOV	-419	-198	37	-44	-59	2	-622	-186
27 NOV	-60	-138	-731	-246	-27	-501	-371	-296
4 DEC	16	1	-16	-281	-167	-121	-174	-106
11 DEC	-60	49	29	-131	-194	-132	-12	-64
18 DEC	39	-117	-17	-71	-7	9	41	-18
25 DEC	-40	-217	-30	-28	17	111	-99	-41



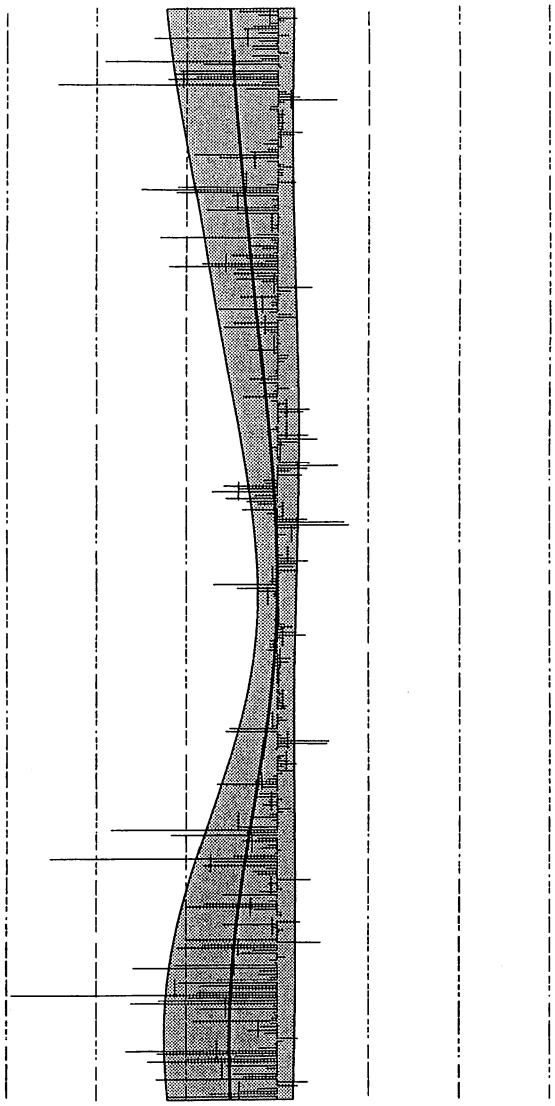
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	22	-83	-41	42	13	-17	-53	-17
8 JAN	-75	-40	23	-272	-40	-8	-55	-67
15 JAN	-49	22	-55	-36	-379	-163	6	-93
22 JAN	-214	-227	-180	-241	-32	-486	-68	-207
29 JAN	18	29	48	129	12	-16	-17	29
5 FEB	-2	14	14	3	16	12	12	10
12 FEB	53	38	6	-19	-29	12	-20	6
19 FEB	-61	-181	-130	-22	12	30	12	-49
26 FEB	14	9	1	40	-23	-217	-298	-68
5 MAR	-220	-97	-13	0	-11	-111	-155	-87
12 MAR	-86	7	0	2	-7	-11	-1	-14
19 MAR	-42	-258	-12	-8	-56	-31	-8	-59
26 MAR	-103	-64	-26	-166	-237	-87	-96	-111
2 APR	-43	-87	-34	-8	77	30	7	-8
9 APR	-79	-4	-12	-13	-127	-16	32	-31
16 APR	44	10	-95	-116	-25	-13	3	-28
23 APR	0	2	7	-8	-61	-5	24	-6
30 APR	21	12	2	1	-6	-5	-19	1
7 MAY	-59	-37	-4	22	-6	-26	-75	-26
14 MAY	-12	20	4	70	57	-3	7	21
21 MAY	7	0	-3	-9	1	69	88	22
28 MAY	43	14	-13	-4	1	4	6	7
4 JUN	72	132	65	31	54	3	-28	47
11 JUN	-23	-118	-86	-142	-47	-111	-64	-84
18 JUN	-41	10	-78	-21	11	65	147	13
25 JUN	156	47	1	19	5	-1	0	32
2 JUL	1	-1	3	13	37	69	43	23
9 JUL	34	45	8	4	-8	-15	-141	-10
16 JUL	-88	-39	-9	-6	-1	-2	3	-20
23 JUL	1	-4	-2	1	-6	15	32	5
30 JUL	11	44	63	12	-16	-15	-16	12
6 AUG	-21	-7	8	30	22	11	6	7
13 AUG	1	6	6	6	-1	3	1	3
20 AUG	5	10	6	7	13	22	17	11
27 AUG	1	3	11	20	4	-10	-105	-11
3 SEP	-113	10	20	112	110	26	-4	23
10 SEP	2	15	10	27	44	15	41	22
17 SEP	13	-8	-20	-48	-131	-31	-1	-32
24 SEP	-37	-49	10	-19	-30	30	11	-12
1 OCT	-15	-56	-9	6	-85	-366	-64	-84
8 OCT	-231	-40	-73	-18	-29	9	-5	-55
15 OCT	-95	-502	-140	-162	-23	-52	-41	-145
22 OCT	-3	72	-17	4	12	-37	-119	-13
29 OCT	2	-16	-160	-195	-48	11	14	-56
5 NOV	2	51	-119	-10	11	5	2	-8
12 NOV	-200	97	-163	-217	-51	-81	19	-85
19 NOV	-15	-5	-222	-314	-37	-37	-12	-92
26 NOV	-130	-215	-169	-98	-173	-590	-192	-224
3 DEC	-261	-322	-7	-168	-11	-5	-13	-112
10 DEC	-183	-12	-35	-63	-27	0	45	-39
17 DEC	12	-8	-37	-333	-263	-91	-198	-131
24 DEC	-286	-111	-22	1	-95	-72	-264	-121
31 DEC	69	47	-40	-84	-149	-237	-173	-81



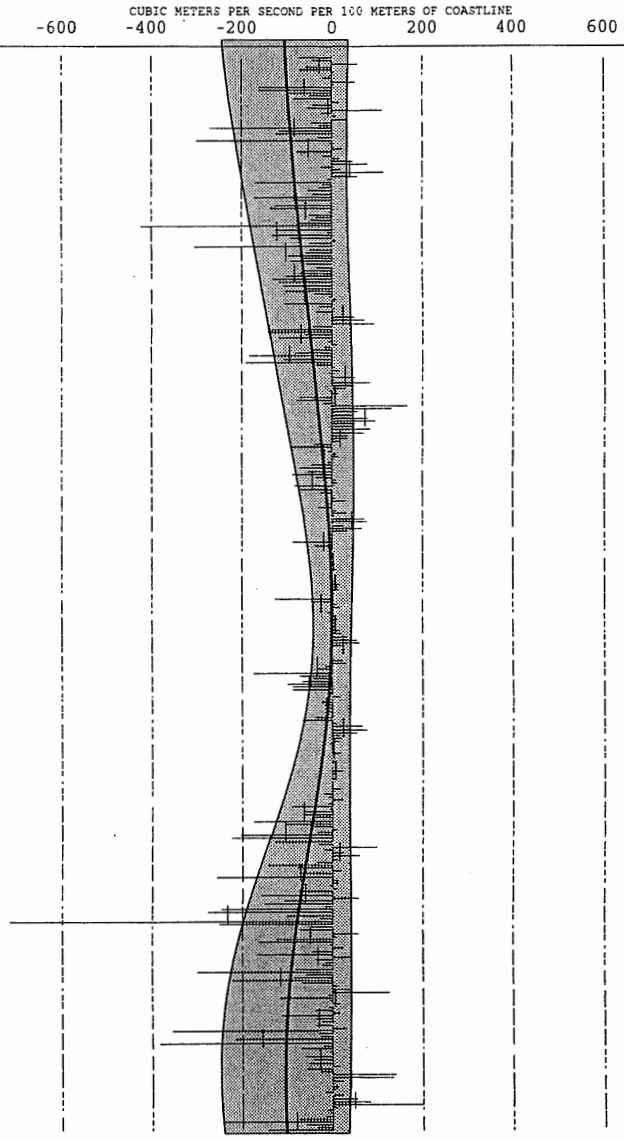
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-70	-44	57	-56	-72	5	-6	-26
14 JAN	-18	52	5	-160	-159	-93	-46	-60
21 JAN	-84	16	-39	-53	114	-21	11	-8
28 JAN	34	-42	-25	-270	-115	-124	-30	-82
4 FEB	-298	-5	1	20	-78	-18	18	-51
11 FEB	46	78	-22	18	115	56	-8	40
18 FEB	-169	-21	-26	-51	-41	-172	-86	-81
25 FEB	-3	-125	-137	-4	-48	-35	-44	-56
4 MAR	-72	-422	-122	-8	-129	-92	8	-120
11 MAR	-46	-305	-47	-57	-95	-67	-91	-101
18 MAR	-56	-33	-57	-74	-101	-129	-118	-81
25 MAR	-107	-58	-104	-37	-5	6	-105	-58
1 APR	-24	3	-33	-1	48	71	92	22
8 APR	-41	-132	-140	-56	-115	-7	9	-69
15 APR	-16	-42	-78	-183	-103	-190	-33	-92
22 APR	3	15	-5	51	8	85	53	30
29 APR	29	-5	14	-69	-76	-18	169	6
6 MAY	132	56	44	80	96	50	49	72
13 MAY	86	70	34	36	18	-37	-87	17
20 MAY	-8	9	12	0	-10	-42	-71	-16
27 MAY	-55	-89	-34	9	11	-81	-71	-44
3 JUN	-25	1	7	28	-5	-29	9	-2
10 JUN	32	5	71	76	24	65	31	43
17 JUN	-5	2	-4	-87	-38	-1	1	-19
24 JUN	4	-1	1	8	2	7	2	3
1 JUL	-1	-1	6	16	14	12	-1	6
8 JUL	-1	-127	-46	9	14	2	-10	-22
15 JUL	6	10	-1	1	4	16	21	8
22 JUL	33	55	61	19	2	-4	-3	23
29 JUL	4	20	30	-12	-30	-173	-71	-33
5 AUG	-40	-66	-98	-88	-87	-3	15	-52
12 AUG	-2	-24	-16	-8	-5	-1	-37	-13
19 AUG	-64	8	65	77	55	14	18	25
26 AUG	12	-4	-2	1	18	2	1	4
2 SEP	8	3	3	20	6	3	8	7
9 SEP	1	-3	14	-2	-17	-8	25	1
16 SEP	-6	-89	-6	-61	-59	-42	-174	-62
23 SEP	-105	-40	10	-32	-203	-223	-127	-103
30 SEP	-28	98	-18	22	61	9	-33	16
7 OCT	-141	-77	19	-74	-258	12	13	-72
14 OCT	-5	9	-73	-158	57	-107	-150	-61
21 OCT	-15	-245	-275	-97	-26	-715	-252	-232
28 OCT	-48	-72	58	7	-124	-163	-4	-49
4 NOV	24	-44	-165	36	-35	-13	-20	-31
11 NOV	-82	-299	-58	-86	-220	-65	10	-114
18 NOV	39	126	-6	-116	-5	16	-8	6
25 NOV	-38	16	-113	-35	-23	-36	28	-29
2 DEC	-354	-29	-25	-214	-381	-18	-67	-156
9 DEC	-5	2	-59	-39	-47	15	-57	-27
16 DEC	-28	140	136	21	0	10	8	41
23 DEC	-14	24	55	82	200	7	-11	49
30 DEC	-3	-12	-75	-243	-56	-35	-139	-80



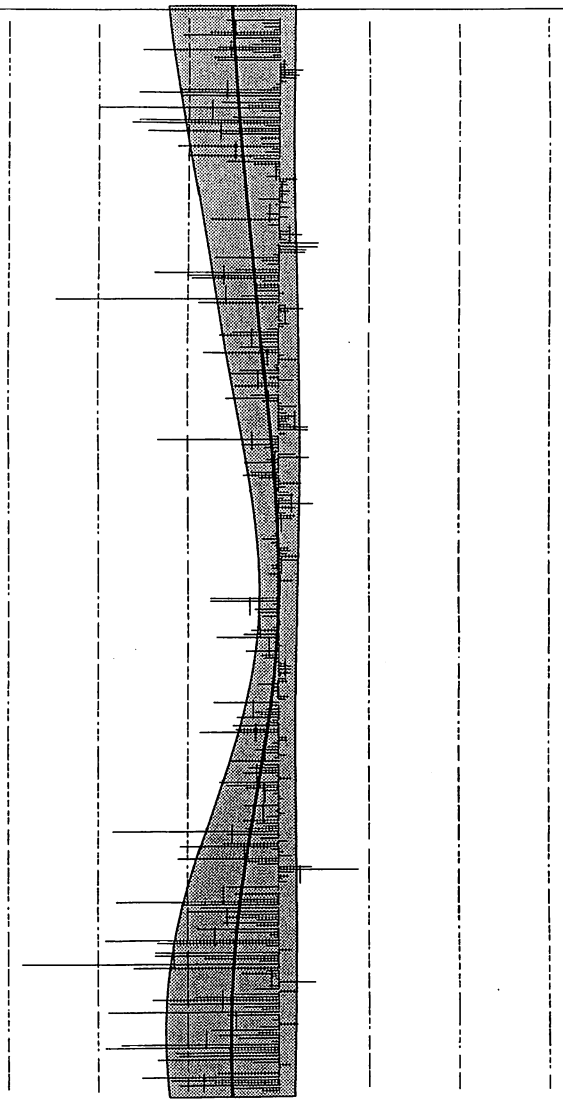
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-116	-39	-36	-12	-156	-214	-96	-95
13 JAN	-40	-60	-137	-302	-57	-16	-145	-108
20 JAN	-137	16	8	53	39	43	39	8
27 JAN	12	-8	-18	-222	-311	-214	-45	-115
3 FEB	-126	-68	-395	-38	5	-103	-310	-148
10 FEB	-324	-30	-90	-291	-128	-38	3	-128
17 FEB	-37	-222	-16	-29	-201	-55	-116	-97
24 FEB	-57	-9	-9	-2	-27	40	15	-7
3 MAR	19	7	23	17	9	-42	14	7
10 MAR	-6	22	3	-27	17	-149	-1	-20
17 MAR	-25	-3	20	52	8	15	87	22
24 MAR	85	59	56	-13	-139	-36	-24	-2
31 MAR	-1	-94	-275	-202	-189	-31	-52	-120
7 APR	-45	-48	12	-80	-492	-176	16	-116
14 APR	54	23	0	-5	8	24	12	16
21 APR	-21	-100	-130	-33	-37	0	-81	-57
28 APR	-40	-164	13	42	2	-5	-6	-23
5 MAY	-83	-102	-20	35	-42	-92	-1	-44
12 MAY	-1	-58	-114	-32	6	40	11	-21
19 MAY	17	38	24	17	27	67	67	37
26 MAY	18	-21	-264	-13	-80	-30	-11	-57
2 JUN	37	68	-24	-74	1	-5	-56	-8
9 JUN	-77	-41	6	53	16	-8	23	-4
16 JUN	33	11	25	75	38	1	15	28
23 JUN	39	30	-6	-5	2	1	-7	8
30 JUN	-13	-34	-16	-8	21	27	17	-1
7 JUL	46	41	6	-16	-12	-3	-20	6
14 JUL	-5	32	2	-4	4	4	1	5
21 JUL	-152	-151	-12	4	-50	-47	-35	-63
28 JUL	-3	7	4	-14	-60	-77	-137	-40
4 AUG	-7	-10	8	-11	-70	-34	-28	-21
11 AUG	-1	17	25	27	27	5	14	16
18 AUG	17	-42	-14	-10	2	22	16	-1
25 AUG	-143	-18	-26	-49	-40	-90	-13	-54
1 SEP	-18	-100	-92	-175	-1	18	18	-50
8 SEP	-13	-24	-50	-26	19	-7	-106	-29
15 SEP	-30	-62	-39	-77	-4	28	-130	-45
22 SEP	-113	-68	-33	-9	2	10	0	-30
29 SEP	-74	3	-8	12	-26	-77	-45	-31
6 OCT	-27	-70	-366	-113	-37	17	-121	-102
13 OCT	-215	-12	9	30	-220	-67	-44	-74
20 OCT	75	176	34	20	9	18	3	48
27 OCT	-113	-2	-92	-4	-75	-356	-213	-122
3 NOV	-171	-200	-82	-118	-46	-121	-49	-113
10 NOV	-177	-104	-18	-6	-383	-266	-26	-140
17 NOV	30	-272	-270	-163	-41	-567	-319	-229
24 NOV	-26	-80	-12	-4	82	-21	-51	-16
1 DEC	42	-95	-185	-276	-238	-77	-34	-123
8 DEC	-375	-112	-2	-12	43	-41	-148	-92
15 DEC	-44	-133	-87	-14	-345	-381	-111	-159
22 DEC	-224	-217	-264	-53	25	4	-1	-104
29 DEC	-136	-301	-234	-140	-215	-102	-38	-166



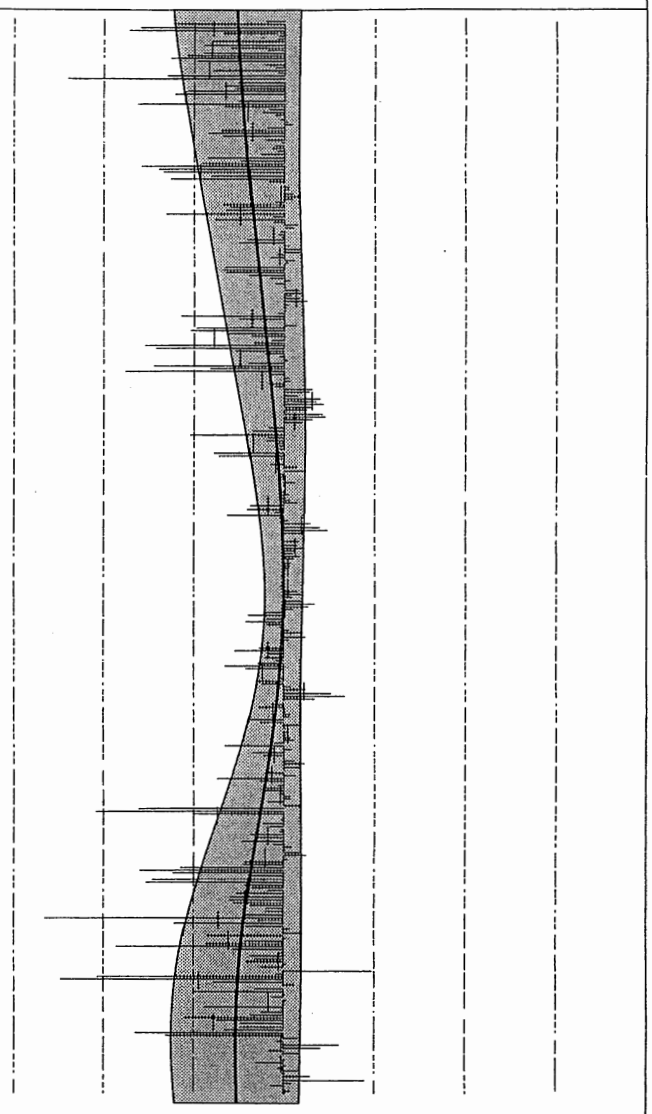
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-41	-242	-317	-344	-133	-10	-14	-157
12 JAN	-158	-176	-115	-37	-176	-214	-250	-161
19 JAN	-191	-44	-19	-158	-13	-256	-480	-166
26 JAN	-100	-132	-110	-213	-241	-2	-100	-128
2 FEB	-323	-129	-31	-50	-21	-7	9	-79
9 FEB	18	-36	-138	-167	-135	-41	-4	-72
16 FEB	-20	-27	-14	-48	-167	-94	-180	-79
23 FEB	-315	-278	-266	-161	-248	-31	2	-185
1 MAR	9	9	21	38	19	-18	-135	-8
8 MAR	-119	-127	-260	-24	-152	-24	28	-97
15 MAR	21	-7	-13	-4	-79	-98	11	-24
22 MAR	40	32	-19	-30	23	11	-131	-10
29 MAR	-133	-126	-78	-33	13	-17	4	-53
5 APR	33	39	18	34	50	10	3	27
12 APR	5	-12	-227	-96	3	27	-192	-70
19 APR	-206	-121	-71	-28	-68	-308	-283	-155
26 APR	-108	-41	-9	7	-76	-288	-161	-97
3 MAY	-350	-30	9	13	-30	-18	61	-49
10 MAY	57	29	79	72	89	60	52	62
17 MAY	85	90	63	41	-1	-33	-69	25
24 MAY	-206	-34	-38	-22	-10	-8	-154	-67
31 MAY	-144	-13	-2	-29	29	44	-6	-17
7 JUN	-9	-2	23	5	4	3	13	5
14 JUN	5	12	29	-73	-78	-18	-124	-35
21 JUN	-9	11	61	80	95	47	1	41
28 JUN	-2	34	29	45	25	20	36	27
5 JUL	23	15	16	13	3	4	-4	10
12 JUL	2	-4	-7	-6	31	36	17	10
19 JUL	37	69	54	22	-40	-76	-37	4
26 JUL	-83	-38	-11	12	43	48	10	-3
2 AUG	2	2	-55	-108	-31	-44	-16	-36
9 AUG	-56	-130	-81	-1	1	-5	-53	-46
16 AUG	-45	16	49	104	136	67	2	47
23 AUG	-14	-54	4	16	12	-75	-51	-23
30 AUG	36	5	11	5	14	24	-21	11
6 SEP	-131	17	-67	-43	-1	25	45	-22
13 SEP	35	4	-42	26	-147	-54	-14	-27
20 SEP	-37	-44	-6	14	16	-36	40	-7
27 SEP	-321	-415	-203	2	-6	-45	-30	-145
4 OCT	-6	-8	-74	-62	-91	-20	17	-35
11 OCT	6	39	53	10	-84	-86	-228	-42
18 OCT	-318	-244	-73	-291	-306	-84	-67	-197
25 OCT	-33	-101	-114	-117	-111	-74	-38	-84
1 NOV	-38	-81	-529	-55	-240	-82	16	-144
8 NOV	43	-169	8	-81	-170	-370	-111	-122
15 NOV	-9	-74	-64	-83	6	-49	197	-11
22 NOV	-16	-414	-495	-154	23	-63	-195	-188
29 NOV	5	-24	7	4	-174	-2	-47	-33
6 DEC	-70	-221	-147	-94	-95	-129	-331	-155
13 DEC	-260	31	-14	125	83	-31	37	-4
20 DEC	2	4	-60	7	-11	32	5	-3
27 DEC	59	179	22	-26	1	18	5	37



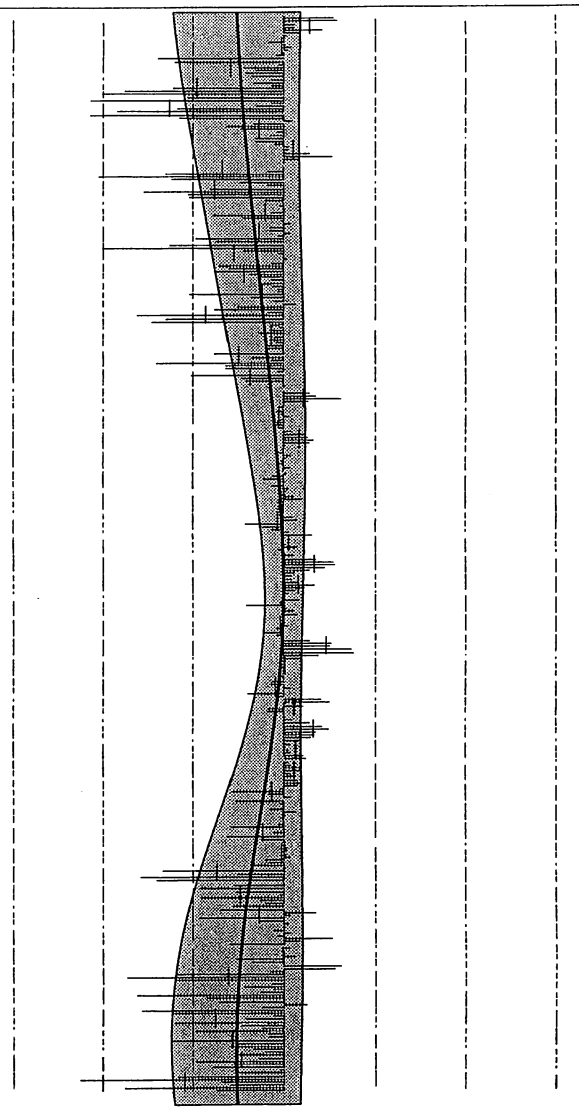
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	109	118	24	24	85	31	6	57
10 JAN	-5	-32	5	17	10	-1	-16	-3
17 JAN	-278	-240	-9	-87	-63	-86	-70	-119
24 JAN	-28	-64	-28	-243	-350	-402	-211	-189
31 JAN	-426	-26	-60	-234	-367	-427	-229	-253
7 FEB	18	-66	-127	-92	-11	-29	-64	-53
14 FEB	-60	-21	13	11	56	108	32	20
21 FEB	1	2	-3	-36	-260	-411	-245	-136
28 FEB	-97	-34	-159	-307	-210	-207	-40	-150
7 MAR	-3	-8	4	-27	-155	-90	-4	-40
14 MAR	15	-30	-30	16	-12	-192	-148	-54
21 MAR	-253	-402	-92	-11	2	11	-26	-110
28 MAR	-143	-120	-148	-77	-52	-26	-55	-89
4 APR	-25	-13	-12	-207	-71	-21	26	-46
11 APR	-101	-151	-36	-325	-260	-290	-30	-170
18 APR	-6	-24	-55	-18	-21	-15	-40	-25
25 APR	-31	-1	-152	-68	-26	-278	-126	-97
2 MAY	-126	-13	-206	-93	-83	-2	2	-74
9 MAY	2	58	72	126	54	0	-11	43
16 MAY	-15	-4	12	-11	-18	-19	-8	-9
23 MAY	17	46	53	64	58	5	-2	35
30 MAY	-6	14	8	-3	-9	14	-2	2
6 JUN	8	-25	-43	-3	-26	13	6	-10
13 JUN	5	20	41	-12	-14	-13	-15	2
20 JUN	-1	21	30	-85	-47	-26	13	-14
27 JUN	62	4	-2	7	30	-11	5	13
4 JUL	20	71	109	113	89	56	24	69
11 JUL	19	22	33	67	47	24	13	32
18 JUL	6	35	-6	-81	6	23	28	2
25 JUL	0	2	3	9	-15	-39	-16	-8
1 AUG	1	57	104	100	148	156	78	92
8 AUG	39	7	2	-2	1	0	-13	5
15 AUG	-2	-24	-26	15	1	-78	-19	-19
22 AUG	82	102	44	-36	-34	2	3	23
29 AUG	19	57	84	97	71	67	61	65
5 SEP	38	16	4	10	16	44	49	25
12 SEP	11	19	39	35	15	26	30	25
19 SEP	40	30	-7	-116	-31	15	-106	-25
26 SEP	-7	2	-30	26	3	-3	-1	-1
3 OCT	-12	-114	-1	-23	-125	-48	4	-45
10 OCT	4	10	6	7	15	-40	-32	-4
17 OCT	-65	6	-267	-102	-316	-280	0	-146
24 OCT	-109	-185	-105	-8	-180	-52	-41	-97
31 OCT	-109	-136	70	14	-186	-52	10	-55
7 NOV	1	-23	15	-11	107	35	-118	1
14 NOV	12	-4	2	25	-105	-71	127	-2
21 NOV	112	-28	-239	-347	-239	-26	-88	-122
28 NOV	-20	-51	-325	-167	-142	52	-48	-100
5 DEC	-312	-241	-24	-82	-240	-92	-45	-148
12 DEC	-191	-35	-32	-248	-108	-100	-69	-112
19 DEC	-40	-102	-53	-190	-110	-155	-7	-94
26 DEC	-99	-231	-448	-134	-116	-352	-145	-218



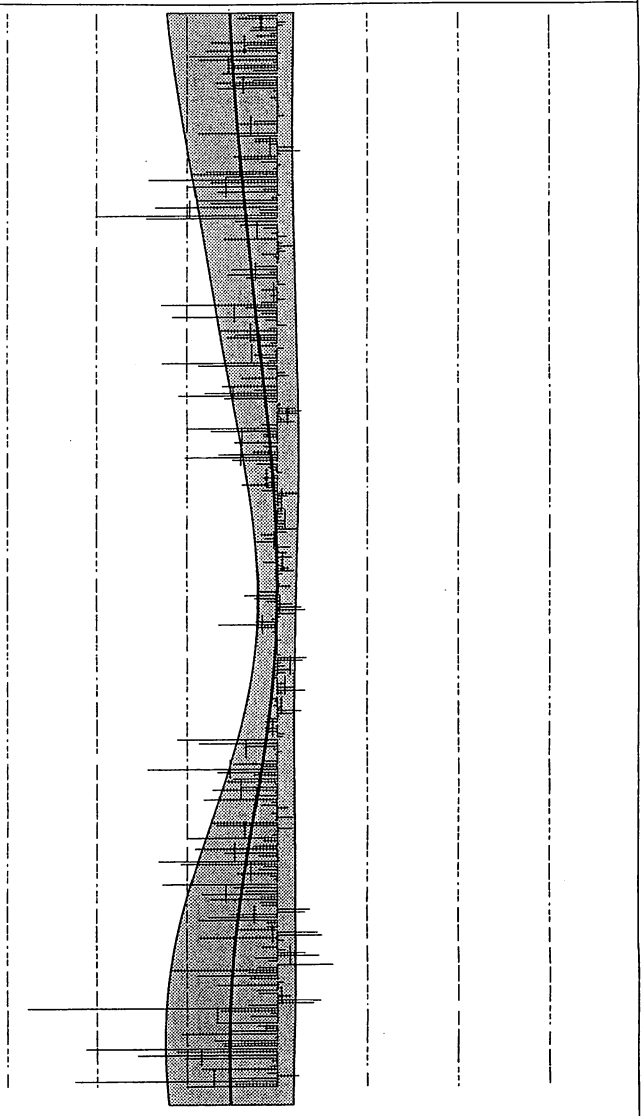
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-63	-88	17	12	-52	-58	-12	-35
9 JAN	-44	-22	-144	-71	-63	-154	8	-70
16 JAN	-193	-173	-8	-93	-109	-52	-121	-107
23 JAN	-90	-51	-138	-100	-131	-10	-3	-75
30 JAN	-14	-3	1	5	2	2	16	1
6 FEB	-3	-50	-87	-2	-1	-176	-89	-58
13 FEB	-45	-45	-19	39	53	6	-96	-15
20 FEB	-84	-35	10	-8	-157	-184	-114	-82
27 FEB	-284	-146	-196	-32	-129	6	-10	-113
6 MAR	-172	-147	-270	-38	-38	-401	-291	-194
13 MAR	-89	-79	-30	3	-13	20	-116	-43
20 MAR	10	32	9	17	-32	-8	0	4
27 MAR	3	-49	-99	-18	-107	-67	6	-47
3 APR	19	-5	-32	4	-12	18	-34	-6
10 APR	-258	-69	-48	-31	-233	-25	3	-94
17 APR	20	-19	-127	-89	-107	-55	-13	-56
24 APR	-31	15	-5	-48	-29	-19	-255	-53
1 MAY	-174	-21	17	25	-76	-3	-1	-33
8 MAY	-120	-50	-160	-217	-117	-17	8	-96
15 MAY	39	56	50	8	16	38	-33	25
22 MAY	-198	-147	-28	-28	-2	-94	-29	-75
29 MAY	-3	-55	-128	-205	-98	-44	-20	-79
5 JUN	-11	10	-10	-33	-19	-77	-25	-24
12 JUN	-33	44	20	11	9	3	14	10
19 JUN	13	13	11	17	18	13	42	18
26 JUN	21	-36	-27	-43	7	30	5	-6
3 JUL	22	31	-5	-28	10	27	39	14
10 JUL	11	1	0	6	29	4	-37	2
17 JUL	-70	-48	-21	36	55	63	40	8
24 JUL	9	-9	-45	-130	-42	-9	-2	-33
31 JUL	2	9	-2	2	0	-1	8	3
7 AUG	67	57	9	19	28	18	-4	28
14 AUG	-9	0	21	38	62	11	0	18
21 AUG	-14	-4	-7	8	54	33	5	11
28 AUG	-17	-26	-5	-27	-18	18	12	-9
4 SEP	-221	-174	-68	-10	9	-4	-1	-67
11 SEP	-34	-95	-31	-287	-131	-48	-95	-103
18 SEP	-111	-4	-79	-144	-4	-50	-162	-79
25 SEP	-13	-35	23	-1	-12	36	-3	-1
2 OCT	-145	-135	32	-5	-10	-197	-28	-70
9 OCT	2	-53	-181	-115	-40	3	-263	-92
16 OCT	-213	-29	-39	-87	-15	-8	-1	-56
23 OCT	-253	-94	-67	-166	-34	-145	-39	-114
30 OCT	-31	73	64	-102	-152	-175	-20	-49
6 NOV	-21	-84	90	100	-171	16	-2	-10
13 NOV	-32	17	63	93	-45	-21	125	29
20 NOV	-43	-236	-62	-178	-59	12	-130	-99
27 NOV	9	-43	-41	31	97	82	-62	10
4 DEC	-555	-126	-13	-58	2	-135	-43	-133
11 DEC	-27	-98	-211	-3	-136	-120	-119	-102
18 DEC	-424	-220	-310	-204	-9	-1	-13	-169
25 DEC	-168	-20	49	-106	-448	-93	-203	-141



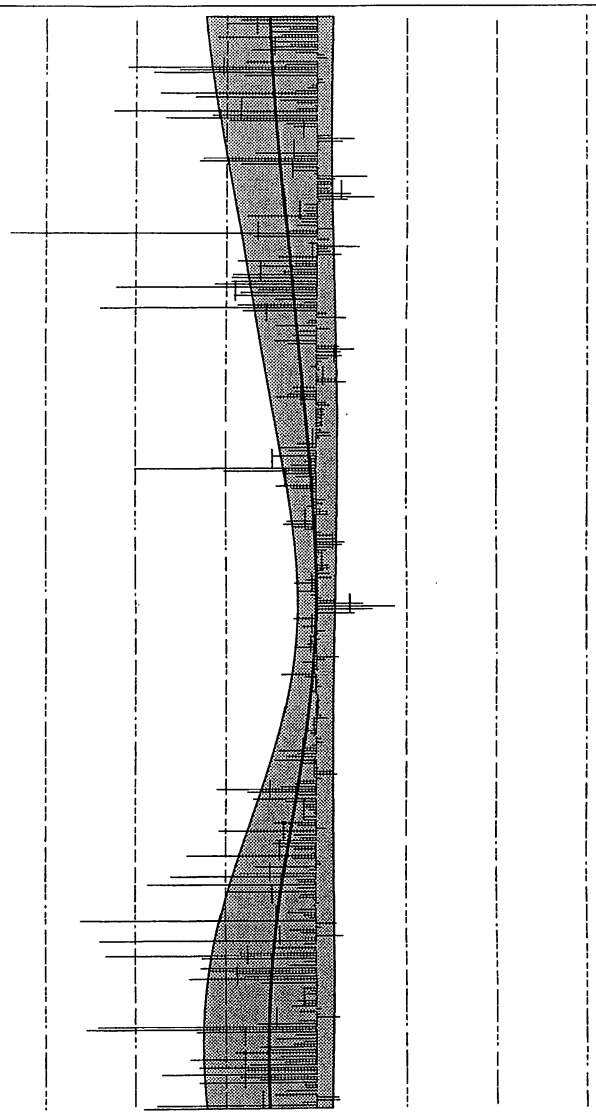
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 54N, 134W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-218	-169	-198	-102	-60	-99	-76	-132
8 JAN	-217	-98	-61	-99	-142	-49	17	-93
15 JAN	22	-155	-68	-418	-306	-359	-159	-206
22 JAN	14	15	-11	-20	-47	-345	-267	-95
29 JAN	-81	-46	-6	-42	-448	-229	-334	-169
5 FEB	-193	-69	-53	-3	-1	31	82	-29
12 FEB	57	4	1	6	-134	-49	-250	-52
19 FEB	-256	-165	-51	-53	-6	109	39	-55
26 FEB	30	34	23	29	74	128	68	55
5 MAR	10	-25	-19	-28	-21	-152	-36	-39
12 MAR	-36	-42	31	-65	-679	-137	27	-128
19 MAR	-17	93	25	29	54	-84	-174	-11
26 MAR	-45	-130	-61	-70	-186	-189	-188	-124
2 APR	-224	-443	-129	-167	-182	-91	-25	-180
9 APR	-174	-478	-163	20	65	-17	-17	-109
16 APR	-89	30	-42	-50	2	-91	-64	-43
23 APR	53	82	55	58	25	14	5	42
30 APR	-11	6	3	5	44	64	-3	15
7 MAY	-50	-45	-63	-85	-37	21	31	-32
14 MAY	19	12	18	12	6	10	6	12
21 MAY	9	30	33	7	1	-42	-83	-6
28 MAY	-59	-14	-96	-14	-25	-54	-402	-95
4 JUN	-203	-73	-42	-8	-11	-88	-54	-68
11 JUN	-14	1	2	20	15	-19	11	2
18 JUN	27	26	-7	-67	-70	-50	-23	-23
25 JUN	9	35	47	62	57	32	21	38
2 JUL	11	5	-1	2	27	31	15	13
9 JUL	29	31	-24	-48	-9	-7	-44	-10
16 JUL	-12	11	42	102	174	122	83	75
23 JUL	0	-52	3	-4	-33	17	4	-9
30 JUL	-14	7	-10	-22	-49	-1	1	-13
6 AUG	50	19	-30	-2	5	3	-75	-5
13 AUG	-24	4	6	10	-4	-6	6	-1
20 AUG	5	10	4	7	-2	-2	12	5
27 AUG	22	1	-9	1	-23	-14	3	-3
3 SEP	11	16	-7	-30	-83	-41	-66	-29
10 SEP	-90	-28	1	3	35	46	12	-3
17 SEP	-36	-45	-77	-218	-151	-43	-138	-101
24 SEP	-69	-20	-27	-15	-5	-24	-26	-27
1 OCT	-92	-40	20	-212	-50	-36	-85	-71
8 OCT	-92	-81	-49	-8	-284	-52	7	-80
15 OCT	12	-133	-12	-166	-321	-44	-38	-100
22 OCT	-372	-39	-196	-32	-36	-3	7	-96
29 OCT	-5	-36	-62	-26	-14	-522	45	-89
5 NOV	11	-61	-32	61	-24	-479	-22	-78
12 NOV	-90	-4	-169	-465	-252	-26	-59	-152
19 NOV	-254	-236	-176	-156	-281	-121	4	-174
26 NOV	-33	-9	-20	2	-40	-29	-54	-26
3 DEC	11	-37	7	52	-41	-129	-483	-89
10 DEC	-508	-262	-47	-87	-28	-48	-125	-158
17 DEC	-97	-180	-76	-275	-71	-145	-258	-157
24 DEC	-155	-341	-168	-123	-258	-27	-22	-156
31 DEC	-68	-89	48	52	-33	-352	-380	-118

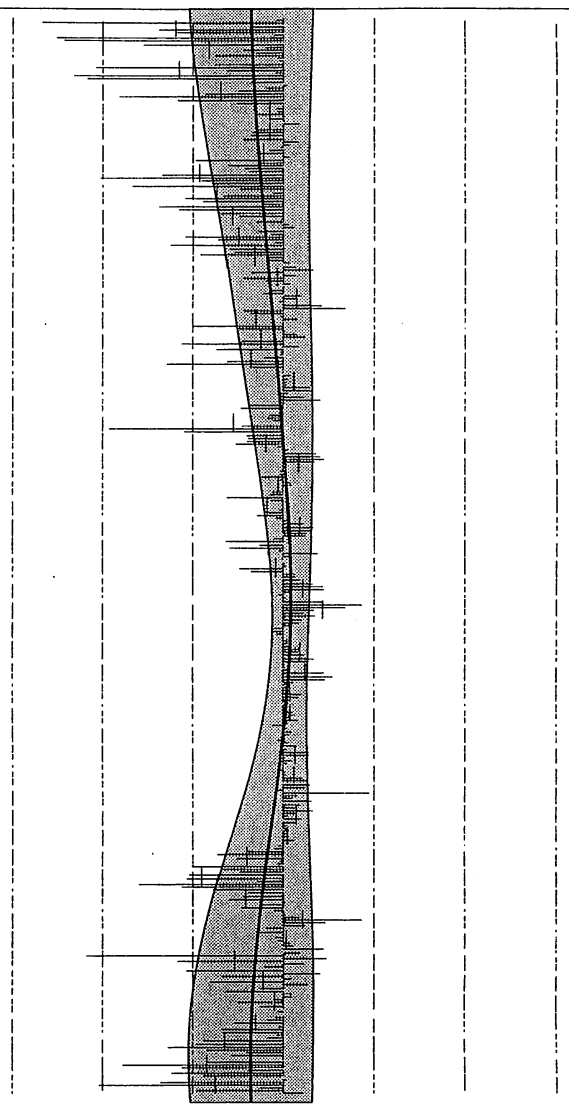


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-13	-536	-74	-273	-237	-19	-502	-236
12 JAN	-486	-308	-41	-87	-59	-150	-9	-163
19 JAN	-6	-151	-413	-122	-19	-463	-431	-229
26 JAN	-72	11	-36	-99	-172	-363	-231	-137
2 FEB	-105	0	-13	-10	-58	-28	3	-30
9 FEB	34	1	-53	-68	-70	-86	31	-30
16 FEB	14	-5	-29	-55	13	-192	-55	-44
23 FEB	-120	-85	-75	-265	-405	-180	-156	-184
2 MAR	-332	-93	-20	-128	-216	-177	-46	-145
9 MAR	-273	-230	-136	-96	-4	-59	12	-112
16 MAR	22	-53	-28	-214	-144	-17	-249	-98
23 MAR	-119	-106	-183	-28	-31	12	28	-61
30 MAR	66	-72	28	-91	-37	15	-1	-13
6 APR	-30	-44	40	27	-6	84	136	30
13 APR	-84	-70	-5	31	-1	-198	-101	-61
20 APR	3	29	48	-91	-224	36	-147	-49
27 APR	-5	-8	-40	-122	-256	-66	-1	-71
4 MAY	-2	17	9	6	11	61	61	23
11 MAY	13	43	81	0	-77	-93	-4	-5
18 MAY	-30	-36	-20	3	-91	-386	-219	-111
25 MAY	-80	-78	-79	-104	-10	13	75	-38
1 JUN	81	89	70	10	4	-4	-7	35
8 JUN	-51	-4	15	17	2	-20	-27	-10
15 JUN	-123	-25	-1	3	-6	-38	-57	-35
22 JUN	-12	8	45	69	64	50	49	39
29 JUN	-18	-126	-53	-119	-8	77	19	-33
6 JUL	-2	5	9	-97	-70	26	27	-15
13 JUL	39	64	88	89	15	-7	7	42
20 JUL	86	173	138	68	44	71	40	89
27 JUL	35	13	-19	-23	-13	0	10	0
3 AUG	10	16	37	32	47	69	56	38
10 AUG	5	6	17	90	111	94	24	49
17 AUG	5	13	15	41	35	3	1	16
24 AUG	3	2	20	25	18	33	10	16
31 AUG	-22	9	19	13	2	-9	9	3
7 SEP	30	7	56	58	5	17	6	26
14 SEP	1	-6	4	7	42	54	61	23
21 SEP	45	-16	189	31	22	64	36	53
28 SEP	28	65	28	11	40	26	7	29
5 OCT	11	13	11	13	24	2	-9	9
12 OCT	-16	-81	-143	-102	-6	-9	-201	-80
19 OCT	-134	-94	-207	-212	-57	-318	-223	-178
26 OCT	-153	-76	-88	-118	8	-50	-92	-81
2 NOV	-19	4	34	173	93	48	-39	42
9 NOV	-49	0	-15	-11	12	22	90	7
16 NOV	38	-436	96	-232	46	-40	-212	-106
23 NOV	82	-132	19	-159	54	-47	-126	-44
30 NOV	22	18	-17	-99	-48	1	-8	-19
7 DEC	1	-15	-33	-107	-7	-135	-132	-61
14 DEC	-13	-32	-175	-190	-254	-167	-81	-130
21 DEC	-112	-2	-169	-354	-225	-75	-245	-169
28 DEC	-175	8	-271	-408	-49	-191	42	-149

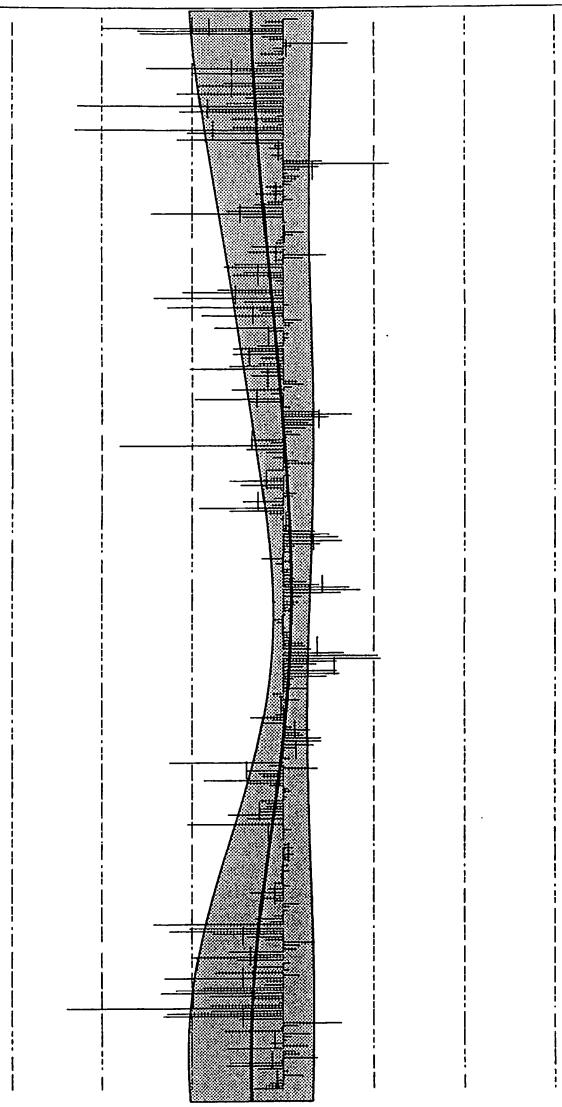


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1987 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	31	-37	-45	-400	-321	-314	-43	-161
11 JAN	-33	144	17	-21	-18	-47	3	6
18 JAN	-11	-60	-55	-302	-103	-196	-67	-113
25 JAN	-21	-128	-191	-63	-69	-232	-79	-112
1 FEB	-61	-123	-455	-167	-226	-12	-109	-165
8 FEB	-44	-10	-111	-461*	-211	-3	-232	-153
15 FEB	-89	-18	-29	0	-22	-5	87	-11
22 FEB	236	81	37	10	35	29	21	64
1 MAR	17	-38	-23	-59	7	21	-34	-16
8 MAR	-59	-98	-124	-291	-88	-2	6	-94
15 MAR	4	-3	47	23	-5	-10	-17	6
22 MAR	-66	8	-77	96	44	-11	-105	-16
29 MAR	-130	-1	-86	-111	-31	-14	-5	-54
5 APR	-1	-143	-220	-18	-285	-84	12	-106
12 APR	-255	-52	-44	-178	41	20	15	-65
19 APR	-152	-33	13	10	3	-9	-55	-32
26 APR	-111	-76	-110	-46	-6	-53	-119	-74
3 MAY	-203	-45	-69	-14	30	44	19	-34
10 MAY	-114	-28	-7	-194	-71	2	16	-56
17 MAY	76	153	97	61	53	65	49	79
24 MAY	19	39	8	-72	-25	-360	-79	-67
31 MAY	-38	3	-20	33	63	14	-38	2
7 JUN	1	15	-27	-117	-94	-39	-3	-38
14 JUN	30	21	-21	-88	-24	-186	-119	-55
21 JUN	-33	-2	-5	0	18	10	70	8
28 JUN	101	121	131	83	25	3	21	69
5 JUL	3	-46	16	-17	-1	17	9	-3
12 JUL	16	27	52	80	146	172	126	88
19 JUL	41	2	31	27	10	17	6	19
26 JUL	-1	-18	-12	-2	7	14	10	0
2 AUG	21	21	43	49	63	136	211	77
9 AUG	215	119	74	42	119	123	97	113
16 AUG	24	7	21	55	8	-24	-7	12
23 AUG	34	11	1	5	9	-16	-72	-4
30 AUG	-24	-41	20	59	37	45	86	26
6 SEP	85	68	30	6	3	-6	13	28
13 SEP	-249	-30	77	-76	-52	-45	-172	-78
20 SEP	-74	-29	11	18	0	8	-49	-16
27 SEP	-35	-34	-52	-52	-120	-76	-1	-53
4 OCT	-211	0		17	5	2	-5	-32
11 OCT	11	23	6	23	12	11	3	12
18 OCT	9	1	12	-4	-5	-3	-20	-1
25 OCT	16	-31	-72	-18	-45	-17	34	-19
1 NOV	13	11	2	-18	-60	-28	-284	-52
8 NOV	-204	-248	-154	-75	-39	72	38	-87
15 NOV	30	-116	-62	-196	-97	14	-66	-71
22 NOV	12	-147	38	-260	-38	-40	-175	-87
29 NOV	-234	-269	-160	-69	-7	-161	-476	-196
6 DEC	-158	-255	-264	-93	129	33	-3	-87
13 DEC	-127	60	17	9	-26	54	-122	-19
20 DEC	27	36	77	-4	-116	-125	-53	-23
27 DEC	13	42	4	-11	-27	-39	-63	-11

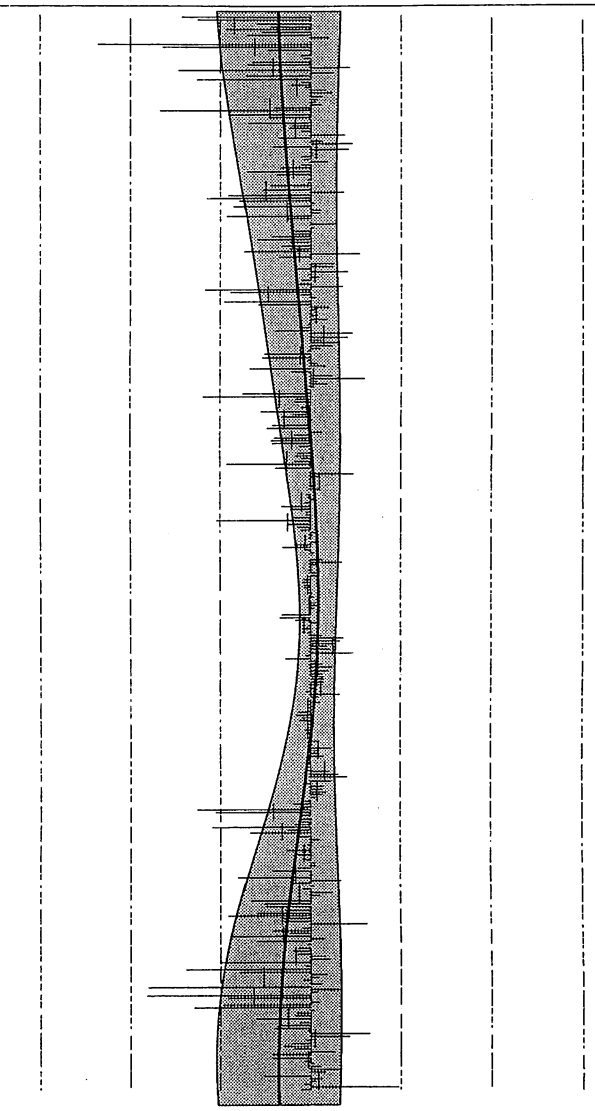


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-284	-248	-119	-86	-187	-107	-139	-167
10 JAN	42	-3	-471	-327	-94	5	-18	-124
17 JAN	-12	-128	-136	89	-290	50	-139	-81
24 JAN	-251	-19	-39	-10	35	46	27	-30
31 JAN	15	12	23	-79	-333	-183	-89	-91
7 FEB	-1	-138	-40	-45	-17	75	-68	-33
14 FEB	27	94	-83	85	4	-19	-13	13
21 FEB	37	-17	-67	-142	-72	0	-5	-38
28 FEB	-3	-87	-104	74	-181	-231	-156	-98
6 MAR	10	-171	22	21	-186	-48	1	-50
13 MAR	56	7	-32	-44	-82	-118	-42	-36
20 MAR	-64	-44	-147	110	-67	3	52	-22
27 MAR	49	-28	82	-5	17	-18	-30	10
3 APR	72	-232	-177	-21	10	-191	-116	-93
10 APR	42	9	0	17	39	-2	-8	14
17 APR	-24	-77	93	82	24	63	47	30
24 APR	20	-5	-101	-108	-6	15	32	-22
1 MAY	-135	-39	50	121	15	37	6	8
8 MAY	-7	-150	-237	-32	-33	2	-18	-68
15 MAY	-111	-37	-63	4	-4	-86	-96	-56
22 MAY	28	-35	-78	-89	-86	-20	6	-39
29 MAY	-27	-33	-17	-33	-184	-75	2	-52
5 JUN	97	19	1	0	12	18	1	21
12 JUN	-7	-5	13	-9	-63	-42	-7	-17
19 JUN	-6	-38	-207	-50	-27	-17	9	-48
26 JUN	4	-3	21	-35	-59	-8	10	-10
3 JUL	4	27	71	14	0	-5	11	17
10 JUL	16	-13	-15	-14	-12	0	5	-5
17 JUL	7	2	10	19	10	1	-63	-2
24 JUL	-68	-32	15	-3	-18	-3	27	-12
31 JUL	74	66	52	38	42	95	-7	51
7 AUG	-54	10	26	49	41	26	29	18
14 AUG	28	29	22	6	-10	65	17	22
21 AUG	1	20	6	7	-24	-28	-19	-5
28 AUG	-23	10	6	-10	-8	2	1	-3
4 SEP	20	4	46	15	21	30	-1	19
11 SEP	-4	1	5	42	64	81	45	33
18 SEP	-6	28	25	35	25	8	-11	15
25 SEP	-35	-18	-252	-211	-18	-24	-22	-83
2 OCT	-31	-219	-50	-136	-29	21	5	-63
9 OCT	-5	-3	-50	-27	2	-6	9	-11
16 OCT	10	-27	-81	7	-161	68	-41	-32
23 OCT	8	-16	48	20	1	-131	-101	-24
30 OCT	-98	-54	-119	-181	-59	-56	127	-63
6 NOV	-16	-85	-45	-175	32	-117	-5	-59
13 NOV	-23	-39	-28	31	44	-203	-9	-32
20 NOV	-275	-156	37	19	-17	25	-360	-104
27 NOV	68	16	-364	-182	19	-193	-257	-128
4 DEC	8	-29	-33	-120	-23	-71	-78	-49
11 DEC	-8	131	88	-7	-40	-57	-35	10
18 DEC	54	-84	-82	-13	11	24	67	-3
25 DEC	35	-101	25	11	-13	195	-18	19



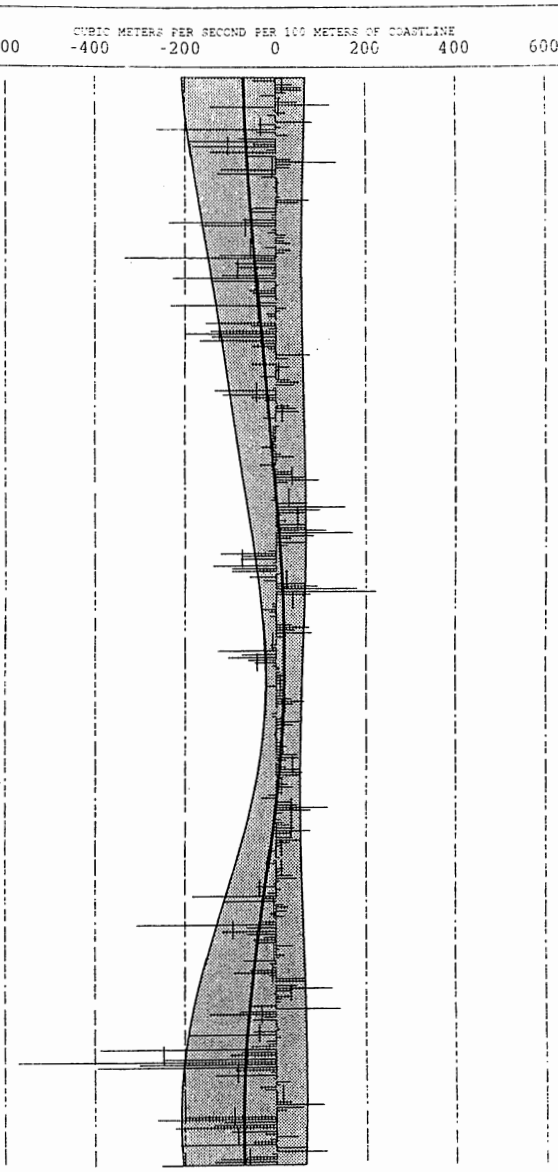
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	12	-45	37	57	61	22	-32	16
8 JAN	13	47	120	-143	-6	23	-16	6
15 JAN	2	81	-39	12	-262	-40	27	-31
22 JAN	-82	-189	-50	-181	-19	-143	-62	-104
29 JAN	31	135	35	33	-118	-126	-30	-6
5 FEB	1	8	8	-4	5	3	10	4
12 FEB	73	48	3	-48	-57	-6	-8	1
19 FEB	-72	-235	-167	-8	-14	22	19	-65
26 FEB	17	32	-20	31	21	-122	-333	-53
5 MAR	-46	-86	-80	-3	-7	-118	-227	-81
12 MAR	-140	8	-6	-58	-48	-31	7	-38
19 MAR	-33	-231	23	10	-17	-14	2	-37
26 MAR	-154	-50	-14	-142	-198	-142	-169	-124
2 APR	-32	-49	-15	-5	75	27	1	0
9 APR	-50	29	10	-2	-32	31	53	6
16 APR	39	-5	-134	-115	-48	-24	4	-40
23 APR	31	46	52	-2	-28	3	0	15
30 APR	7	-3	-5	-2	-11	-9	-5	-4
7 MAY	-32	-10	13	40	4	-9	-31	-4
14 MAY	3	36	34	63	97	25	4	37
21 MAY	-1	-2	2	-6	-11	71	154	30
28 MAY	100	63	13	7	24	65	64	48
4 JUN	113	171	85	31	62	23	-1	69
11 JUN	-15	-122	-72	-75	-6	-137	-97	-75
18 JUN	-97	7	-58	-26	62	93	181	23
25 JUN	223	78	1	1	-7	-7	-27	37
2 JUL	-16	-11	-2	2	35	72	41	17
9 JUL	79	18	1	1	-12	-9	-129	-7
16 JUL	-74	-103	-59	-45	-7	7	7	-39
23 JUL	22	11	15	13	-21	3	16	9
30 JUL	15	35	62	38	3	6	-7	22
6 AUG	-7	9	50	37	9	-3	-5	13
13 AUG	-2	5	13	23	11	17	47	16
20 AUG	47	23	3	20	51	59	53	36
27 AUG	15	2	27	37	5	12	-17	11
3 SEP	-30	35	45	115	75	12	-6	35
10 SEP	9	18	30	40	76	32	38	35
17 SEP	51	28	10	-2	-9	-1	10	12
24 SEP	-5	-20	3	18	6	38	45	12
1 OCT	6	-4	-40	11	-15	-183	-21	-35
8 OCT	-110	19	26	24	-13	18	2	-5
15 OCT	-35	-307	-62	-119	-61	-24	-45	-93
22 OCT	-38	39	8	2	20	6	-67	-4
29 OCT	-12	-4	-54	-92	-13	65	62	-7
5 NOV	45	126	35	-6	31	13	9	36
12 NOV	-51	143	-76	-144	-23	-50	5	-28
19 NOV	3	7	-46	-189	11	-19	-11	-35
26 NOV	-55	-389	-74	-97	-243	-570	-300	-247
3 DEC	-392	-87	-10	-132	-4	31	11	-83
10 DEC	-31	-20	7	3	6	31	107	15
17 DEC	59	21	0	-202	-260	-114	-134	-90
24 DEC	-222	-97	-24	49	-10	-52	-210	-81
31 DEC	63	113	-7	-62	-122	-134	-251	-57



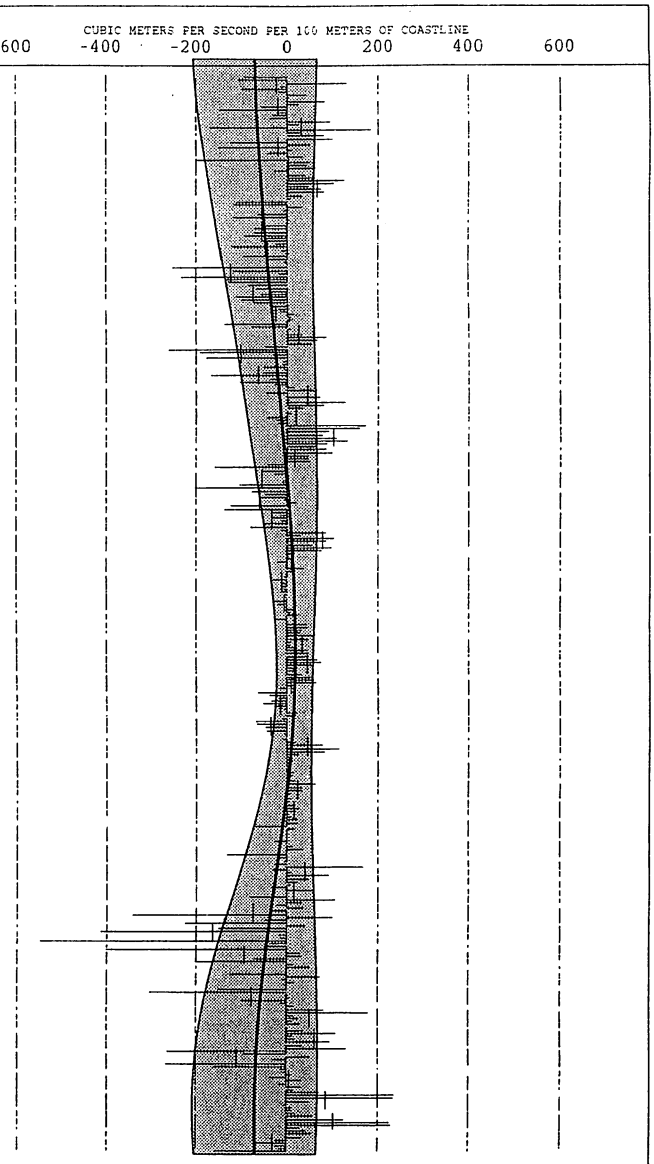
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-91	-103	131	-12	-97	-16	42	-21
14 JAN	5	85	25	-53	-146	-21	-29	-19
21 JAN	-34	95	27	-166	184	30	83	31
28 JAN	101	-125	51	-150	10	-40	36	-17
4 FEB	-195	52	43	62	-27	40	63	5
11 FEB	126	105	46	75	82	33	7	68
18 FEB	-110	-115	32	-5	-63	-118	7	-53
25 FEB	-2	-43	-68	-71	-94	-50	-54	-55
4 MAR	-21	-120	-10	8	-92	-39	-5	-40
11 MAR	2	-253	-119	-16	-233	-131	-126	-125
18 MAR	-82	-64	-39	-57	-111	-99	-74	-75
25 MAR	-31	-18	-12	16	10	12	-137	-23
1 APR	-77	9	3	36	89	68	54	26
8 APR	-47	-259	-190	-30	-177	-8	-8	-103
15 APR	-48	-4	-52	-165	-36	-105	-26	-62
22 APR	16	60	-45	74	6	129	82	46
29 APR	36	3	11	-42	-20	-17	174	20
6 MAY	160	93	80	109	134	92	62	104
13 MAY	89	100	46	48	50	-42	-157	19
20 MAY	-53	-23	3	3	-11	-104	-201	-55
27 MAY	-77	-45	-61	-4	20	-123	-138	-61
3 JUN	-30	-11	-28	-10	-51	-78	-10	-31
10 JUN	89	29	105	88	58	100	76	78
17 JUN	17	5	10	-19	0	38	9	9
24 JUN	3	-5	-30	-11	-7	-6	-11	-10
1 JUL	-1	-2	-30	-17	1	15	8	-4
8 JUL	25	-24	3	42	47	33	28	22
15 JUL	58	46	10	11	25	46	49	35
22 JUL	49	67	78	54	23	16	31	45
29 JUL	54	59	65	12	-14	-63	-38	11
5 AUG	-16	-32	-50	-22	-3	23	19	-12
12 AUG	-10	-69	-66	-47	-44	-4	-3	-35
19 AUG	-6	17	79	114	86	27	4	46
26 AUG	14	1	1	-1	14	12	0	6
2 SEP	19	63	31	33	10	4	11	24
9 SEP	8	17	28	18	3	11	20	15
16 SEP	23	-72	17	2	0	-2	-27	-9
23 SEP	1	11	35	-3	-133	-19	-6	-16
30 SEP	-27	168	-29	9	94	48	22	41
7 OCT	9	-33	60	0	-80	108	35	14
14 OCT	-21	36	-31	-341	102	-45	-224	-75
21 OCT	44	-149	-413	-17	-14	-549	-38	-162
28 OCT	-49	-401	28	33	-70	-203	13	-93
4 NOV	51	0	-123	75	-8	15	-3	1
11 NOV	-148	-301	5	7	-101	-10	15	-76
18 NOV	82	179	16	27	13	31	3	50
25 NOV	39	110	12	18	95	35	133	63
2 DEC	-263	-94	50	-30	-265	-161	-12	-111
9 DEC	-5	14	-34	32	-15	33	16	6
16 DEC	74	237	236	49	-5	12	13	88
23 DEC	19	56	125	227	231	29	44	104
30 DEC	57	32	-20	-72	-23	-15	-156	-28



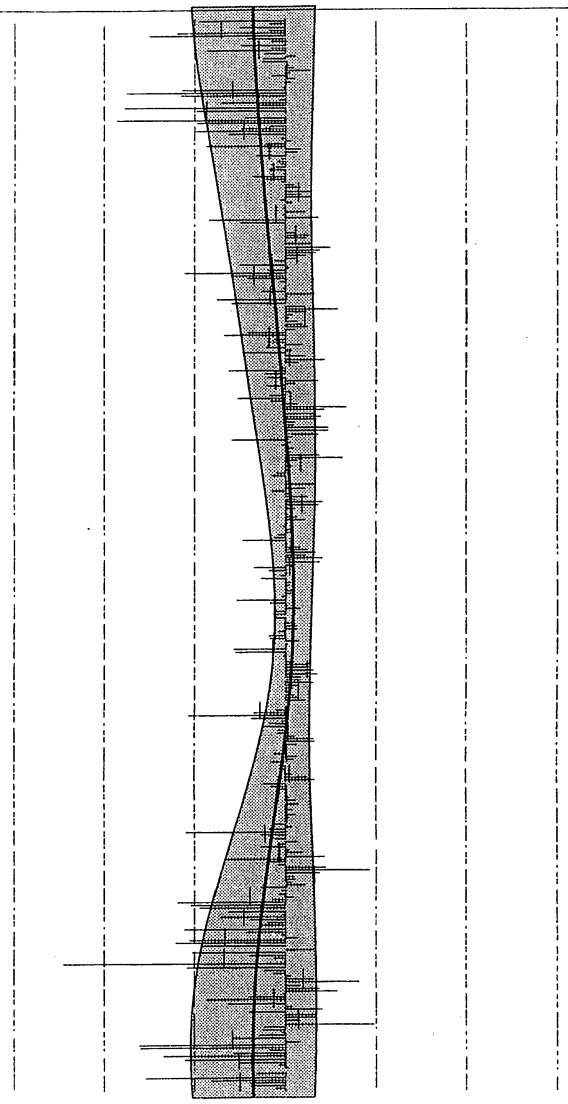
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-186	-32	-100	-34	-238	-300	-83	-139
13 JAN	-29	-95	-33	-171	-42	24	-45	-56
20 JAN	-49	9	19	58	13	-30	20	5
27 JAN	14	0	-8	-226	-347	-228	-12	-115
3 FEB	-141	-63	-355	-194	1	-86	-371	-173
10 FEB	-194	-33	-97	-197	-123	-9	12	-92
17 FEB	-42	-173	34	27	-62	-7	-18	-34
24 FEB	-9	-21	-33	-4	-68	-39	-8	-26
3 MAR	21	32	54	37	58	-11	16	30
10 MAR	-1	-5	45	-4	74	-169	-95	-22
17 MAR	3	-2	20	53	45	-2	57	25
24 MAR	102	76	67	47	22	-23	-98	28
31 MAR	8	-38	-224	-120	-82	-10	-3	-67
7 APR	-5	-53	66	4	-153	-118	43	-31
14 APR	115	46	15	11	27	39	47	43
21 APR	20	-82	-135	-25	-25	36	-40	-36
28 APR	14	-94	44	88	28	3	-14	10
5 MAY	-122	-44	-34	72	23	-37	-3	-21
12 MAY	11	-32	-104	-29	27	135	88	13
19 MAY	67	80	70	21	22	95	96	64
26 MAY	73	15	-118	13	-6	18	11	1
2 JUN	77	126	26	1	17	7	-18	34
9 JUN	-28	2	11	68	43	-26	7	11
16 JUN	49	27	81	73	21	1	6	37
23 JUN	26	44	5	-4	12	13	-14	12
30 JUN	-22	-94	4	32	47	67	46	11
7 JUL	82	76	22	-68	-35	4	-9	10
14 JUL	-51	11	11	3	21	14	-7	0
21 JUL	-108	-33	7	31	-20	-20	-22	-23
28 JUL	2	17	25	25	-12	-36	-32	-1
4 AUG	30	5	0	-114	-110	-3	0	-27
11 AUG	21	57	52	64	72	36	36	48
18 AUG	63	26	17	10	20	30	42	30
25 AUG	2	1	-18	-68	-213	-73	-8	-54
1 SEP	-31	-44	-15	-14	20	63	64	6
8 SEP	27	1	5	-22	26	18	-29	4
15 SEP	-9	-6	-3	14	50	66	-47	9
22 SEP	-30	-6	5	4	6	24	31	5
29 SEP	-2	15	4	24	10	-3	-27	3
6 OCT	18	-36	-219	-53	-20	25	-15	-43
13 OCT	-52	9	39	88	-127	-39	-12	-13
20 OCT	91	188	76	21	20	12	45	65
27 OCT	-52	-8	-13	17	-26	-236	-208	-75
3 NOV	-187	-125	-7	-144	-75	-37	-53	-90
10 NOV	-221	-84	-7	27	-210	-242	-186	-132
17 NOV	64	-204	-76	-23	-2	-491	-217	-136
24 NOV	-44	-24	14	63	163	33	75	40
1 DEC	115	-6	-79	-173	-122	15	82	-24
8 DEC	-76	68	69	32	195	-42	-45	29
15 DEC	-6	-55	-114	32	-321	-319	-33	-117
22 DEC	-114	-267	-221	-100	-11	8	1	-101
29 DEC	-62	-308	-161	-76	-73	-17	2	-99



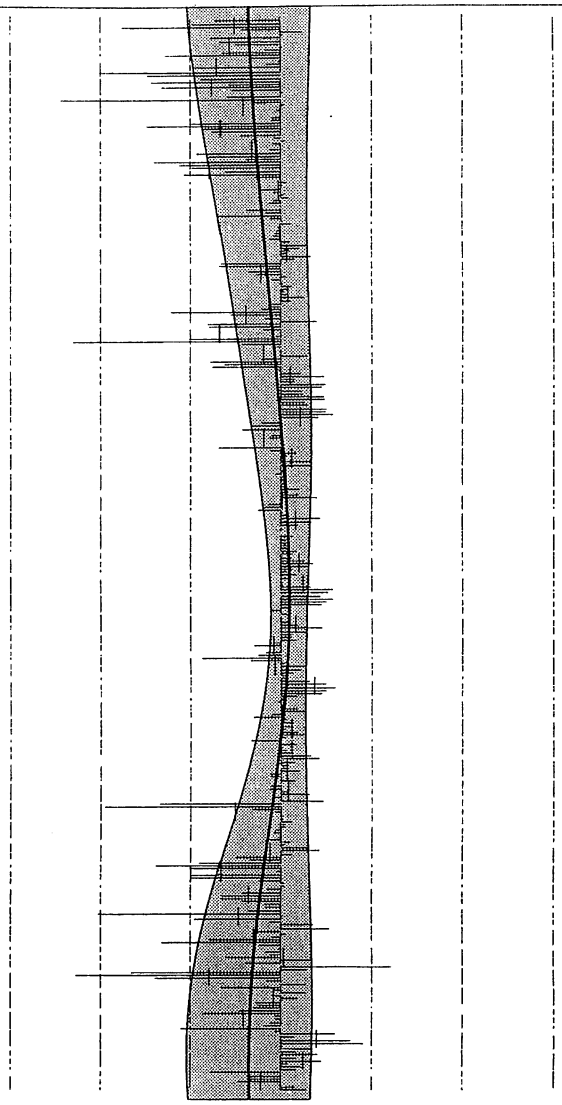
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	0	-140	-193	-352	-88	48	8	-102
12 JAN	-153	-131	-100	4	-32	-126	-257	-113
19 JAN	-65	-4	-30	-192	0	-401	-293	-141
26 JAN	-176	-286	-115	-263	-107	6	-118	-151
2 FEB	-488	-64	8	-1	-8	0	-17	-81
9 FEB	-19	-197	-295	-174	-152	-87	-11	-133
16 FEB	11	-15	3	-24	-185	-158	-76	-64
23 FEB	-279	-223	-197	-122	-213	-56	0	-156
1 MAR	13	4	-39	-14	7	14	-15	-4
8 MAR	-24	-2	-72	-33	-138	-21	4	-41
15 MAR	21	-3	-8	-9	-15	-23	21	-2
22 MAR	59	41	22	13	65	30	-132	14
29 MAR	-136	-33	-71	-49	10	-18	4	-42
5 APR	25	18	10	13	52	21	-23	16
12 APR	-27	-41	-243	-111	-33	80	-160	-76
19 APR	-158	-38	2	-11	-202	-461	-84	-136
26 APR	-10	2	2	59	-40	-155	-123	-38
3 MAY	-150	-4	42	97	32	30	99	21
10 MAY	90	47	48	97	96	52	57	69
17 MAY	102	99	116	81	-2	-39	-62	42
24 MAY	-84	1	-20	-24	4	-2	-138	-38
31 MAY	-20	31	13	0	68	69	0	23
7 JUN	6	-9	8	7	7	8	41	10
14 JUN	15	41	79	3	-26	-34	-48	4
21 JUN	3	17	88	69	38	1	-1	31
28 JUN	0	26	9	15	22	12	36	17
5 JUL	27	24	54	70	59	28	11	39
12 JUL	33	17	3	3	64	114	103	48
19 JUL	87	116	100	89	21	-19	12	58
26 JUL	0	-3	13	38	91	58	26	32
2 AUG	24	31	-10	-61	-3	-31	-49	-14
9 AUG	-174	-67	7	52	43	28	15	-14
16 AUG	16	62	100	122	102	90	34	75
23 AUG	3	-7	8	35	51	-18	-60	2
30 AUG	14	26	19	9	37	48	9	23
6 SEP	-65	34	5	9	27	67	85	23
13 SEP	29	15	10	41	-25	-21	28	11
20 SEP	1	-20	-25	11	63	-16	94	15
27 SEP	-269	-389	-62	-11	-1	3	23	-101
4 OCT	10	9	-11	-16	0	-24	20	-2
11 OCT	8	62	84	23	-100	-67	-179	-24
18 OCT	-277	-202	-8	-196	-199	-48	7	-132
25 OCT	6	-29	-86	-130	-130	-85	-35	-70
1 NOV	-32	-70	-405	5	-190	-23	70	-92
8 NOV	107	-58	10	-19	-154	-262	-45	-60
15 NOV	-4	-32	-20	-121	66	-78	242	8
22 NOV	57	-329	-455	-277	-29	55	-129	-158
29 NOV	-14	54	-11	37	-54	-52	-60	-14
6 DEC	-91	-171	-14	-11	-25	-38	-221	-81
13 DEC	-14	122	31	154	183	7	70	79
20 DEC	32	82	35	91	18	42	35	48
27 DEC	-154	-75	-71	-94	-3	33	56	-44



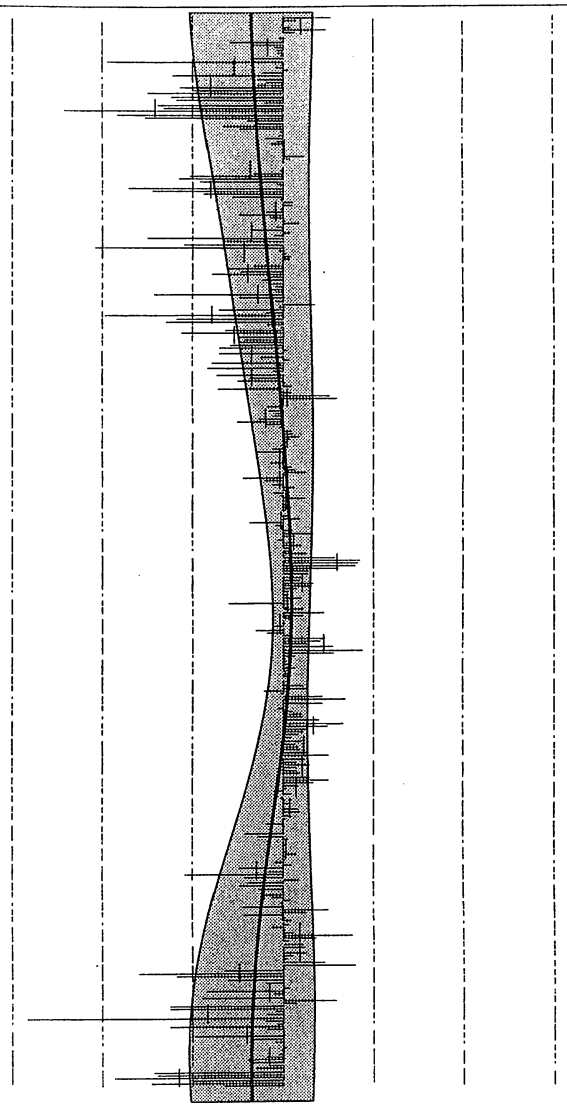
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	106	33	-1	17	96	27	1	40
10 JAN	-6	-116	-61	-18	-12	-11	-4	-33
17 JAN	-71	-387	-2	-16	12	-43	-244	-107
24 JAN	-54	-35	-58	-228	-198	-298	-245	-159
31 JAN	-234	-39	-276	-263	-486	-365	-306	-281
7 FEB	-76	-56	-128	-92	-4	-10	-38	-58
14 FEB	-12	-23	1	-3	1	45	15	3
21 FEB	-2	3	2	-6	-64	-205	-228	-71
28 FEB	-183	-12	-340	-289	-174	-110	-3	-159
7 MAR	20	21	-6	-35	-93	-26	5	-16
14 MAR	35	-12	-65	19	-18	-300	-131	-67
21 MAR	-217	-415	-11	8	18	16	-1	-86
28 MAR	-64	-123	-91	-156	-31	-43	-29	-76
4 APR	-16	-26	-15	-285	-96	-15	71	-54
11 APR	-8	-140	-36	-393	-234	-258	-33	-157
18 APR	-3	-125	-225	-98	-84	-97	-114	-107
25 APR	-140	9	-139	-48	12	-158	-18	-69
2 MAY	-166	-20	-147	-70	-100	4	18	-69
9 MAY	-144	18	105	121	-8	-1	-31	9
16 MAY	-31	-16	-20	-52	-102	-38	-7	-38
23 MAY	19	20	34	17	10	-5	-21	11
30 MAY	-59	-3	2	-1	-25	19	26	-6
6 JUN	48	12	-88	-40	-20	28	3	-8
13 JUN	-19	-6	47	4	7	19	7	8
20 JUN	2	13	37	-74	-15	-6	20	-3
27 JUN	67	19	-11	18	41	17	14	24
4 JUL	54	115	170	166	160	124	58	121
11 JUL	54	41	37	68	62	29	14	44
18 JUL	9	41	6	-121	1	44	91	10
25 JUL	43	20	1	5	-17	-60	-36	-6
1 AUG	14	94	81	51	111	176	113	91
8 AUG	26	4	8	15	27	6	7	13
15 AUG	14	1	-3	44	50	-39	-5	9
22 AUG	88	137	88	6	-10	21	40	53
29 AUG	43	79	132	99	52	45	34	69
5 SEP	19	41	27	32	37	56	102	45
12 SEP	47	30	60	31	30	38	61	42
19 SEP	103	67	33	10	-19	18	-5	30
26 SEP	4	9	2	33	37	12	6	14
3 OCT	0	-36	3	0	-81	-56	9	-23
10 OCT	0	6	1	10	29	8	4	8
17 OCT	-18	17	-95	-33	-217	-85	35	-56
24 OCT	-77	-93	-52	-2	-41	-22	12	-39
31 OCT	-8	-87	103	50	-86	7	19	-1
7 NOV	13	-24	5	23	155	72	13	37
14 NOV	46	48	2	50	20	9	94	38
21 NOV	160	3	-129	-316	-234	-121	-37	-96
28 NOV	0	13	-169	-21	-176	118	29	-30
5 DEC	-250	-248	-15	-33	-564	-37	-9	-165
12 DEC	-250	-34	1	-192	-66	-18	1	-80
19 DEC	6	-4	-7	-35	-76	-70	-29	-30
26 DEC	-60	-284	-277	-371	-199	-289	-128	-230

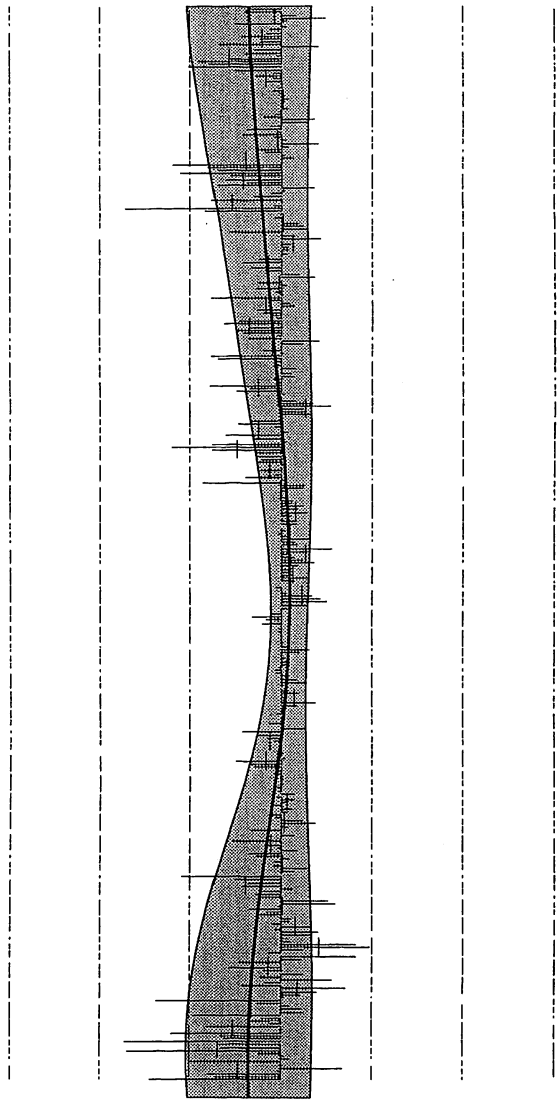


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1994 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-71	-76	33	100	13	-98	14	-12
9 JAN	-23	-29	-84	-44	-42	-137	83	-39
16 JAN	-56	-73	-8	-110	-180	-158	-202	-112
23 JAN	-98	-14	-58	-14	-29	1	-4	-31
30 JAN	-15	-3	7	15	6	-2	14	3
6 FEB	2	-10	-37	75	59	-23	-75	-1
13 FEB	-8	-85	-12	10	81	16	-51	-7
20 FEB	-35	7	27	1	-239	-160	-137	-77
27 FEB	-220	-110	-121	-74	-141	74	11	-83
6 MAR	-22	-58	-151	2	-13	-344	-164	-107
13 MAR	-1	-12	3	42	49	60	-111	4
20 MAR	31	88	2	21	14	18	14	27
27 MAR	-2	-47	-83	0	-62	-32	41	-26
3 APR	73	1	-51	14	-54	-11	6	-3
10 APR	-152	-21	19	30	-50	-38	-15	-32
17 APR	-8	-91	-123	-70	-99	-83	-7	-69
24 APR	-68	86	50	-2	-39	8	-152	-17
1 MAY	-138	-8	-12	32	0	25	28	-10
8 MAY	-15	-6	-155	-68	-95	8	-2	-47
15 MAY	33	72	110	48	51	69	-1	54
22 MAY	-67	-94	-13	4	14	-120	-60	-48
29 MAY	12	-150	-240	-149	-53	-55	-42	-97
5 JUN	-51	5	-2	-44	-11	-76	4	-25
12 JUN	-171	54	48	13	6	11	28	-2
19 JUN	24	49	38	56	24	6	35	33
26 JUN	36	1	9	-5	12	63	31	21
3 JUL	35	112	59	15	30	49	74	53
10 JUL	38	23	15	26	57	29	1	27
17 JUL	-10	-1	10	68	89	102	59	45
24 JUL	13	-1	-17	-64	-31	-40	-1	-20
31 JUL	-4	-3	-2	0	-1	1	18	1
7 AUG	63	39	-1	11	17	10	-5	19
14 AUG	-11	-9	19	35	57	5	0	14
21 AUG	18	41	13	11	77	35	13	30
28 AUG	1	-8	7	6	-23	2	55	5
4 SEP	-85	-48	-29	-12	1	1	1	-24
11 SEP	4	-7	10	-98	-71	-57	-5	-32
18 SEP	-14	5	4	3	4	-6	-7	-2
25 SEP	28	-6	29	11	-13	24	13	12
2 OCT	-21	-11	45	75	16	-63	0	6
9 OCT	28	-2	-107	-34	-7	39	-68	-22
16 OCT	-55	19	-12	-13	56	28	3	4
23 OCT	-217	-99	-70	-86	28	-38	-53	-77
30 OCT	-46	104	120	-4	-69	-29	-49	4
6 NOV	25	21	-17	69	-10	81	64	33
13 NOV	18	21	165	196	48	-24	165	84
20 NOV	45	-91	0	-112	-38	47	-43	-27
27 NOV	112	-34	-85	144	79	44	8	38
4 DEC	-275	-48	20	47	52	-189	-39	-62
11 DEC	-63	-21	-160	-2	-241	-129	-124	-105
18 DEC	-342	-134	-129	-337	-45	7	17	-138
25 DEC	-196	-2	137	-3	-158	-143	-287	-93



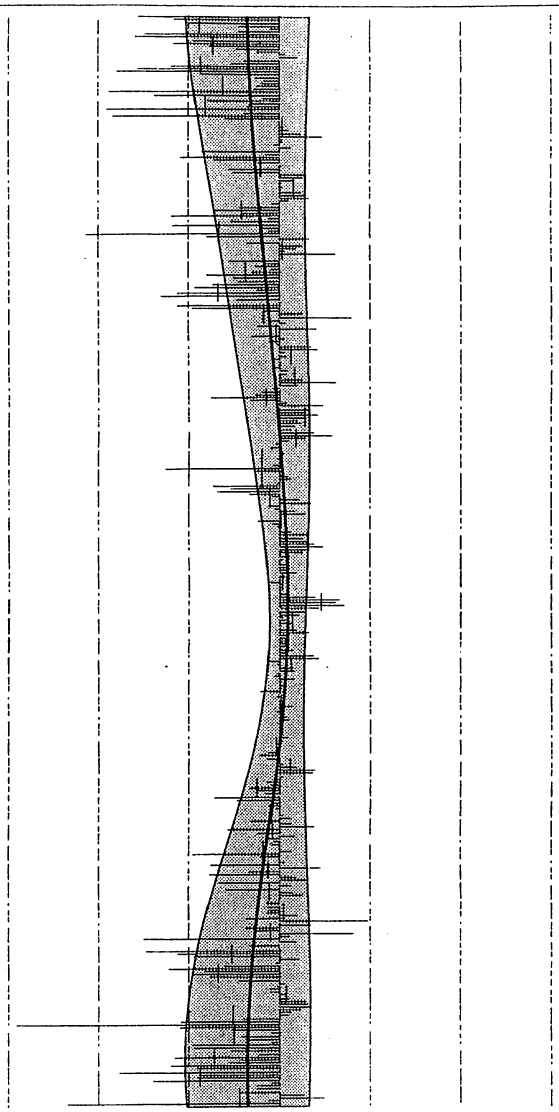
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 51N, 131W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-310	-232	-196	-86	-20	-88	-295	-175
8 JAN	-317	-189	-232	-155	-92	-49	14	-146
15 JAN	40	-76	-105	-239	-314	-357	-174	-175
22 JAN	-52	-31	-38	-48	-54	-375	-273	-124
29 JAN	-34	-158	-57	-71	-379	-76	-364	-162
5 FEB	-117	-2	-2	9	22	50	95	8
12 FEB	7	9	-10	27	-171	-29	-217	-55
19 FEB	-144	-47	3	-111	-102	58	52	-42
26 FEB	33	8	8	5	48	60	65	33
5 MAR	20	-15	-88	-143	-81	-237	-24	-81
12 MAR	-104	-234	-35	-24	-426	-160	67	-131
19 MAR	-72	50	39	13	124	5	-109	7
26 MAR	-30	-51	-17	-59	-159	-100	-92	-72
2 APR	-147	-185	-45	-225	-259	-93	4	-136
9 APR	-223	-190	-35	53	160	-22	13	-35
16 APR	-47	82	1	-61	9	-23	-5	-6
23 APR	71	85	14	18	-7	5	6	27
30 APR	-8	19	16	4	51	124	41	35
7 MAY	-12	-39	-51	-151	-62	17	96	-29
14 MAY	70	58	86	59	41	48	35	57
21 MAY	27	76	114	56	20	-8	-18	38
28 MAY	-1	13	-3	-4	3	-12	-252	-36
4 JUN	-47	2	19	22	-5	-146	-107	-37
11 JUN	-138	-64	-16	44	70	-23	-10	-20
18 JUN	35	56	4	-46	-15	-4	2	4
25 JUN	28	59	52	59	76	97	68	63
2 JUL	51	25	8	-1	19	18	19	20
9 JUL	36	13	1	-17	4	8	2	7
16 JUL	18	79	132	125	142	88	59	92
23 JUL	43	7	13	28	3	37	65	28
30 JUL	22	17	20	16	19	33	14	20
6 AUG	77	88	-23	-5	28	32	-8	27
13 AUG	-10	33	7	16	4	-41	1	1
20 AUG	-4	4	8	25	4	-5	3	5
27 AUG	15	21	-6	7	9	6	6	8
3 SEP	19	8	-4	-7	-8	-22	-42	-8
10 SEP	-28	-4	9	37	81	73	8	25
17 SEP	-12	-27	-17	-66	-49	-29	-144	-49
24 SEP	-92	-19	-23	-7	3	8	22	-16
1 OCT	-59	28	77	-111	-47	31	-29	-16
8 OCT	-13	-15	-2	28	-190	-40	-2	-33
15 OCT	13	-152	91	-64	-154	36	56	-25
22 OCT	-133	26	-116	28	53	5	-1	-20
29 OCT	-23	-24	-23	-23	39	-72	195	10
5 NOV	72	-71	-55	166	22	-300	39	-18
12 NOV	-66	-3	-292	-223	-188	43	-8	-105
19 NOV	-121	-242	-163	-188	-155	-89	13	-135
26 NOV	-6	-18	-19	16	20	59	63	16
3 DEC	71	46	26	20	-77	-214	-583	-102
10 DEC	-217	-103	-14	-82	-72	-15	-191	-99
17 DEC	-188	-104	-42	-230	-87	-108	-236	-142
24 DEC	-179	-352	-174	-178	-277	-15	-48	-174
31 DEC	-49	-85	54	99	-25	-467	-140	-88

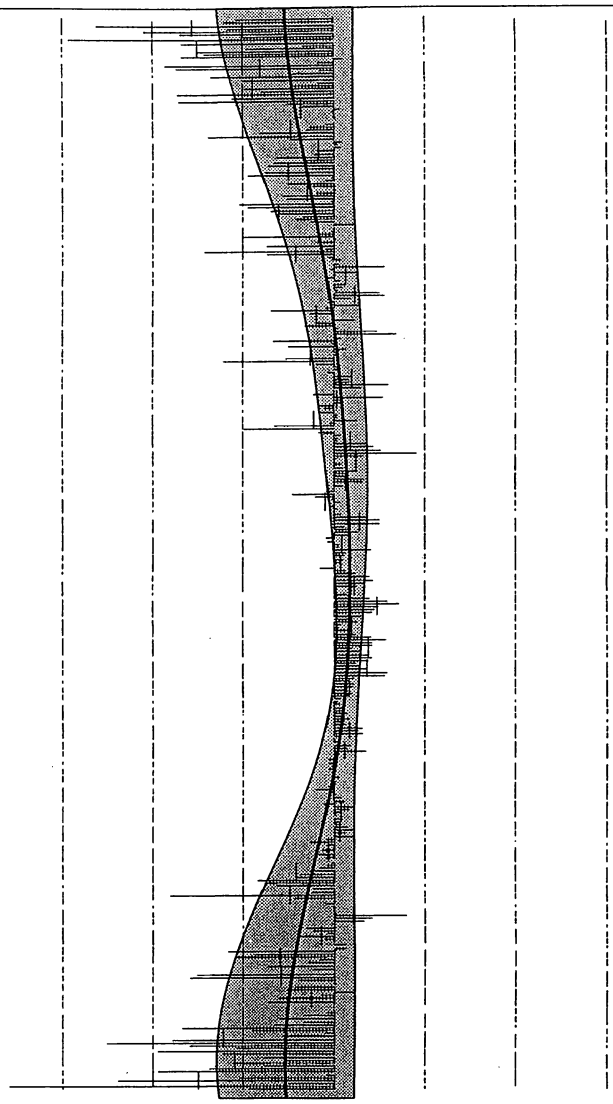


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-214	-240	-523	-233	-418	-337	-201	-309
12 JAN	-584	-334	-65	-191	-299	-286	-336	-299
19 JAN	20	-32	-371	-346	-29	-87	-270	-159
26 JAN	-198	-31	-89	-194	-156	-342	-225	-176
2 FEB	-340	-99	-64	13	-3	-3	4	-70
9 FEB	3	-12	-53	-56	-160	-277	-94	-93
16 FEB	17	9	14	-35	-39	-125	-63	-32
23 FEB	-129	-143	-62	-148	-188	-4	-14	-98
2 MAR	-98	-46	3	-37	-110	-100	-6	-56
9 MAR	-207	-189	-138	-117	-66	-83	-48	-121
16 MAR	44	-1	-3	-34	-198	4	-36	-32
23 MAR	-145	-19	-284	-147	-10	17	9	-82
30 MAR	112	-6	55	3	-16	14	25	27
6 APR	19	10	102	113	38	-10	56	47
13 APR	-18	-137	-51	-1	47	-36	-62	-37
20 APR	9	95	137	14	-132	-5	-99	3
27 APR	25	-1	4	-104	-244	-39	8	-50
4 MAY	12	-11	39	32	38	120	59	41
11 MAY	-3	-42	110	18	16	-33	-17	7
18 MAY	-26	6	8	51	-6	-130	-195	-42
25 MAY	-31	16	9	10	72	89	106	38
1 JUN	183	67	6	2	18	21	52	50
8 JUN	33	29	64	63	20	-4	-15	27
15 JUN	-89	-41	-4	11	-6	8	-2	-17
22 JUN	17	71	103	100	22	37	54	58
29 JUN	36	-15	-13	10	9	83	27	19
6 JUL	21	20	19	-1	-30	24	49	14
13 JUL	79	89	64	51	9	1	29	46
20 JUL	79	119	143	98	89	84	59	96
27 JUL	33	51	15	12	36	48	83	40
3 AUG	116	85	84	40	58	76	86	78
10 AUG	75	46	57	73	118	112	43	75
17 AUG	34	43	43	29	39	35	15	34
24 AUG	7	11	22	22	29	25	33	21
31 AUG	23	25	63	53	64	12	-3	34
7 SEP	14	37	29	71	11	7	-9	23
14 SEP	-10	-5	-9	-5	1	10	4	-2
21 SEP	8	-12	-37	-9	6	14	21	-1
28 SEP	-20	40	34	15	5	17	15	15
5 OCT	17	30	40	24	42	-16	-50	12
12 OCT	-13	-2	-23	-31	-15	2	-6	-12
19 OCT	-19	-30	-51	-75	-81	-166	-151	-82
26 OCT	-125	-46	-47	-360	-84	-3	-16	-97
2 NOV	-3	-3	6	160	86	65	-5	44
9 NOV	-59	-46	-11	-80	-17	-2	27	-27
16 NOV	26	-231	-172	-219	-29	-53	-143	-117
23 NOV	-42	1	-302	-314	-77	4	-86	-117
30 NOV	-102	45	-24	-117	-143	-1	-2	-49
7 DEC	-2	-12	-64	-118	-69	-129	-333	-104
14 DEC	-178	-18	-112	-355	-502	-315	-213	-242
21 DEC	-388	-244	-152	-105	-220	-153	-275	-219
28 DEC	-387	-12	-208	-478	-98	-718	-184	-298



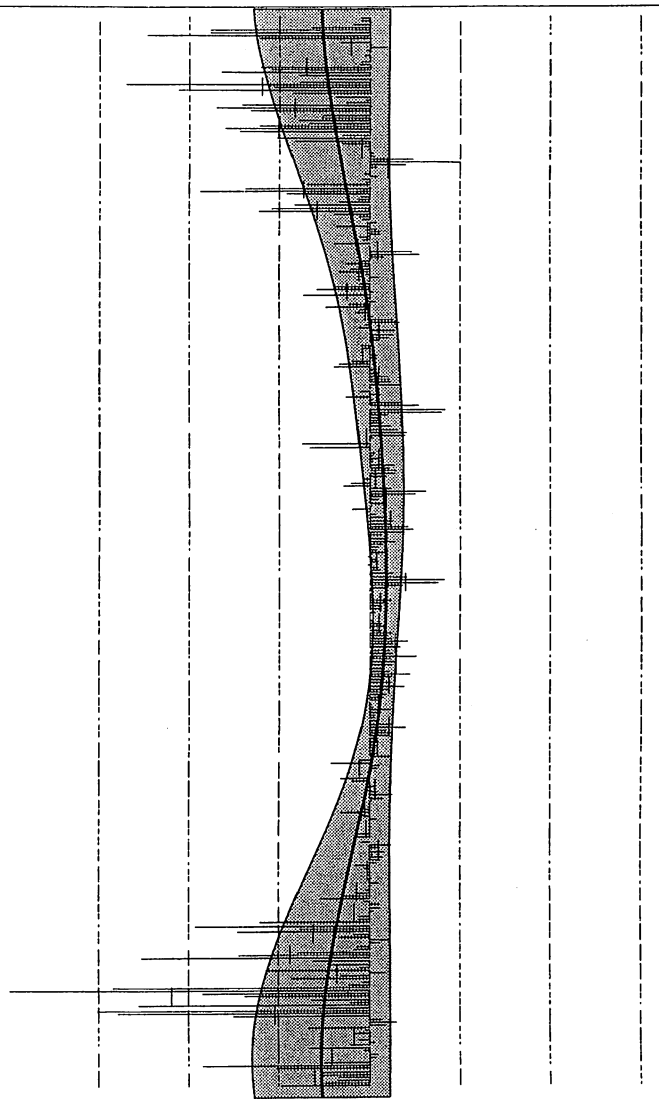
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	-19	-17	-35	-128	-353	-353	-492	-199
11 JAN	-243	-62	8	38	-6	-1	-9	-39
18 JAN	0	-18	-22	-241	-215	-328	-154	-140
25 JAN	-99	-153	-541	-210	-423	-172	-75	-239
1 FEB	-9	-51	-282	-337	-261	-101	-108	-164
8 FEB	-157	-136	-243	-319	-287	-59	-204	-201
15 FEB	-166	-60	-11	-5	7	10	96	-19
22 FEB	198	78	16	-2	-9	18	-15	41
1 MAR	-9	-140	-274	-375	-183	-19	-25	-146
8 MAR	-64	-166	-215	-242	-76	-24	-16	-115
15 MAR	16	-72	14	22	23	-20	-13	-4
22 MAR	-78	-2	-2	92	109	33	-17	19
29 MAR	-52	-23	-40	-65	-7	19	-5	-25
5 APR	-20	-78	-115	8	-146	-1	14	-48
12 APR	-42	-96	-21	-28	8	52	64	-9
19 APR	-9	-24	57	53	42	19	2	20
26 APR	-20	-12	-2	18	15	-37	-67	-15
3 MAY	-78	7	22	39	45	45	72	22
10 MAY	2	-18	24	-52	8	69	111	21
17 MAY	168	161	40	26	21	29	45	70
24 MAY	62	81	79	7	0	-148	-133	-7
31 MAY	-1	11	8	18	10	54	43	20
7 JUN	58	56	36	-13	-40	-56	47	13
14 JUN	123	103	26	17	33	4	-37	38
21 JUN	-4	14	34	50	46	84	96	46
28 JUN	71	27	35	57	29	18	16	36
5 JUL	31	-5	13	19	-4	20	24	14
12 JUL	52	82	166	152	75	35	-2	80
19 JUL	4	8	49	31	27	25	14	23
26 JUL	2	2	8	27	38	28	50	22
2 AUG	41	49	85	50	67	47	52	56
9 AUG	104	45	61	48	33	44	90	60
16 AUG	50	32	51	75	42	19	39	44
23 AUG	33	18	4	10	47	28	9	21
30 AUG	14	14	51	81	39	52	44	42
6 SEP	14	21	17	10	13	14	43	19
13 SEP	-22	-84	23	14	-4	-1	-63	-20
20 SEP	-38	-4	14	5	19	51	33	11
27 SEP	4	-2	-5	-16	-63	-11	15	-11
4 OCT	1	0		3	0	-24	-26	-8
11 OCT	-14	48	24	32	8	29	23	21
18 OCT	15	-28	-9	-3	-5	5	-1	-4
25 OCT	20	-1	-7	-26	-54	-108	-10	-26
1 NOV	24	23	9	-2	-22	-22	-241	-33
8 NOV	-385	-151	-290	-33	-66	43	23	-123
15 NOV	-27	-31	-157	-286	-505	-122	-83	-173
22 NOV	-18	-228	34	-63	-171	-13	-43	-72
29 NOV	-567	-1169	-368	-274	-125	-42	-509	-436
6 DEC	-110	-602	-557	-300	29	59	34	-207
13 DEC	-134	-7	-28	-2	-20	13	-40	-31
20 DEC	-132	-9	19	12	1	-98	-369	-82
27 DEC	-205	-104	-106	-69	-69	-96	-192	-120

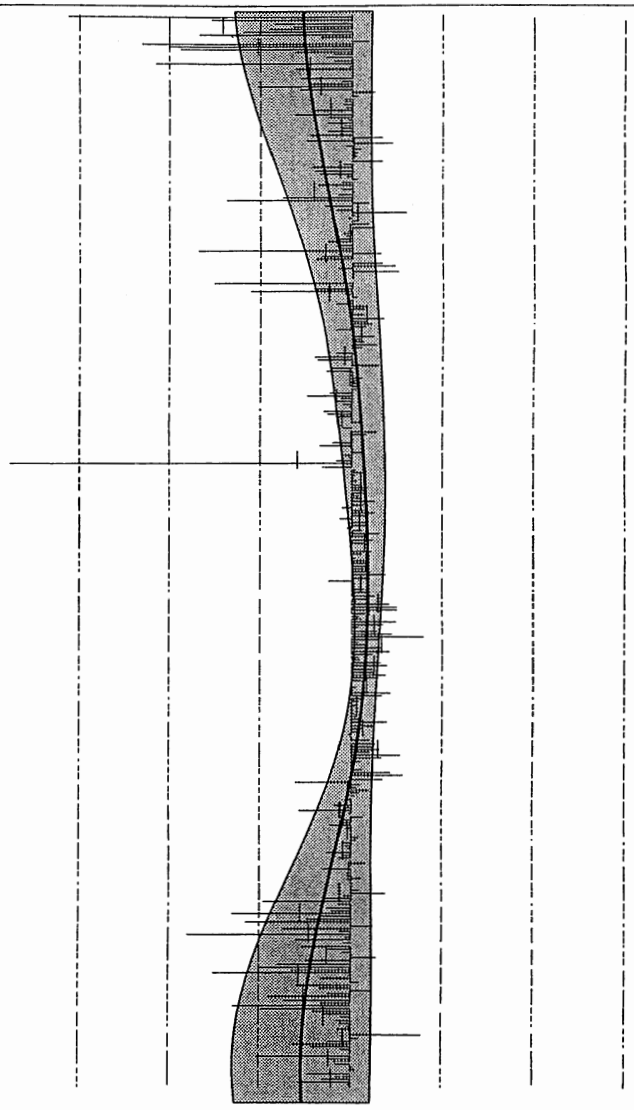


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-623	-307	-169	-126	-178	-238	-332	-282
10 JAN	-68	39	-460	-401	-375	-124	-37	-204
17 JAN	-53	-37	-429	-5	-121	2	2	-92
24 JAN	-109	-20	-89	-205	-113	51	13	-67
31 JAN	-16	-16	-18	-12	-83	-124	-53	-46
7 FEB	-6	-52	-17	-24	-52	-89	68	-25
14 FEB	-97	91	-13	22	14	10	0	4
21 FEB	69	-18	-88	-81	-67	-14	9	-27
28 FEB	-22	-72	-20	7	-30	-153	-274	-81
6 MAR	37	-56	-33	122	6	-7	11	11
13 MAR	37	49	-8	-18	-13	-27	-52	-4
20 MAR	-30	-28	-334	64	-67	-75	69	-57
27 MAR	95	-30	103	8	1	2	-300	-18
3 APR	-6	-81	-222	-14	9	-3	-32	-50
10 APR	30	27	2	26	70	30	45	33
17 APR	28	-32	6	47	22	28	55	22
24 APR	22	2	-31	-80	-75	-1	59	-15
1 MAY	-43	-55	-2	24	15	17	13	-5
8 MAY	9	-47	-97	-22	-35	-17	-8	-31
15 MAY	-59	-51	-31	-1	17	3	-18	-20
22 MAY	56	31	3	4	-40	-69	4	-2
29 MAY	24	-11	-4	-33	-754	-64	10	-119
5 JUN	26	6	4	13	23	37	36	21
12 JUN	30	17	23	52	26	-20	25	22
19 JUN	50	28	-26	34	36	-11	24	19
26 JUN	60	32	45	27	-5	-2	47	29
3 JUL	25	10	29	35	37	41	44	31
10 JUL	75	31	-48	8	3	27	43	20
17 JUL	53	36	9	84	102	101	30	59
24 JUL	18	20	98	71	14	57	90	53
31 JUL	160	63	18	38	67	85	45	68
7 AUG	14	18	66	79	47	53	77	50
14 AUG	59	21	1	11	3	87	69	36
21 AUG	27	19	9	4	5	8	11	12
28 AUG	23	79	47	28	19	-6	-3	27
4 SEP	40	53	45	62	41	109	67	60
11 SEP	22	10	2	24	89	116	71	47
18 SEP	-122	20	13	39	17	6	-22	-7
25 SEP	-2	-34	-15	-113	-5	27	-22	-24
2 OCT	-22	-42	-10	2	-2	15	9	-7
9 OCT	-15	-13	-7	-51	-19	-23	-2	-18
16 OCT	32	-6	-57	-8	-6	23	0	-3
23 OCT	4	5	19	78	-14	-59	-190	-22
30 OCT	-27	-51	-41	-260	-61	-94	-229	-109
6 NOV	48	-149	-25	-358	-11	-117	-16	-90
13 NOV	-103	-47	-18	8	58	-97	-157	-51
20 NOV	-195	-127	-300	-4	-63	20	-115	-112
27 NOV	-65	47	-50	-176	-143	-62	-258	-101
4 DEC	-192	-83	-57	-18	-26	-21	-8	-58
11 DEC	-28	0	157	18	-47	-123	-85	-15
18 DEC	-17	3	-204	-46	-31	-29	8	-45
25 DEC	10	-90	-28	-61	-113	-5	2	-41



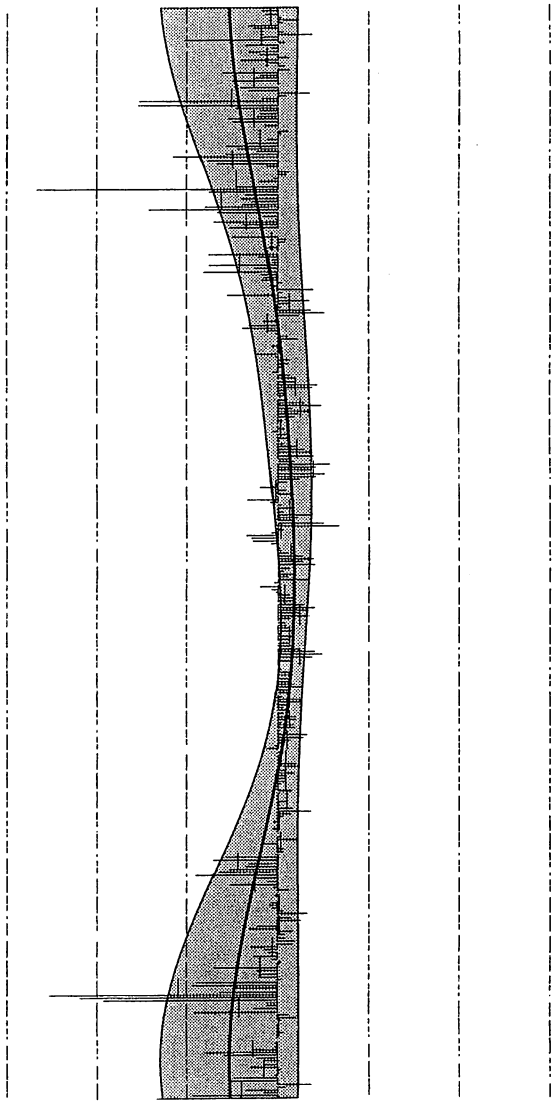
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-48	-34	-26	6	49	9	-63	-15
8 JAN	-53	13	77	-31	-205	19	-67	-35
15 JAN	-11	-62	-37	23	-80	-18	15	-24
22 JAN	27	-121	-37	-46	-98	1	-82	-51
29 JAN	-63	70	19	-36	-304	-308	-91	-102
5 FEB	-38	-37	-46	-106	-100	-26	2	-50
12 FEB	23	8	0	-23	-68	-113	-88	-37
19 FEB	-43	-112	-228	-155	-131	-24	2	-99
26 FEB	24	17	-7	-42	1	-86	-533	-89
5 MAR	-151	-70	-78	-55	-78	-160	-281	-125
12 MAR	-132	-32	-4	-140	-75	-103	2	-69
19 MAR	1	-98	17	14	3	-17	0	-11
26 MAR	-153	-39	-13	-13	-151	-50	-163	-83
2 APR	-35	-28	-35	9	-17	80	10	-2
9 APR	-110	21	70	26	7	73	105	27
16 APR	46	1	-29	-63	-78	-19	-5	-21
23 APR	21	45	11	-12	7	-1	-43	4
30 APR	-3	27	22	9	-1	-11	25	10
7 MAY	40	40	88	76	21	13	12	41
14 MAY	18	59	96	32	73	46	37	52
21 MAY	10	-2	0	16	-9	17	21	7
28 MAY	5	15	41	61	76	81	24	43
4 JUN	38	114	86	74	105	84	49	78
11 JUN	22	-8	-37	19	34	-3	-64	-5
18 JUN	-15	6	31	13	76	42	34	27
25 JUN	100	134	12	-12	-69	-57	-53	8
2 JUL	-13	5	6	23	55	80	54	30
9 JUL	82	26	12	39	24	65	-6	35
16 JUL	-39	-12	-3	26	39	39	57	15
23 JUL	81	68	48	71	29	14	21	47
30 JUL	24	37	10	30	25	24	29	25
6 AUG	49	83	99	76	28	3	1	48
13 AUG	7	25	29	25	30	38	54	30
20 AUG	27	20	10	55	52	17	14	28
27 AUG	19	12	39	39	8	34	39	27
3 SEP	4	65	56	29	14	-5	-24	20
10 SEP	6	6	8	10	40	46	19	19
17 SEP	37	20	19	15	6	-6	33	18
24 SEP	3	0	2	22	5	32	74	20
1 OCT	29	12	4	-7	5	-10	-2	4
8 OCT	0	5	46	-35	-1	14	13	6
15 OCT	-3	-112	-140	-62	-67	-104	-129	-88
22 OCT	-181	-49	-22	-104	-8	25	2	-48
29 OCT	-3	2	-14	-16	-10	12	67	5
5 NOV	28	50	-1	-44	-60	33	17	3
12 NOV	18	37	32	-57	-25	-19	-51	-9
19 NOV	-9	8	6	-136	-45	-36	-40	-36
26 NOV	7	-176	-187	-96	-126	-504	-437	-217
3 DEC	-384	-25	-20	-52	-181	23	41	-85
10 DEC	6	1	3	3	12	6	-1	4
17 DEC	3	-6	-3	-58	-159	-117	-45	-55
24 DEC	-29	-30	-57	6	4	-8	-97	-30
31 DEC	-101	75	14	-72	-29	-184	-267	-80



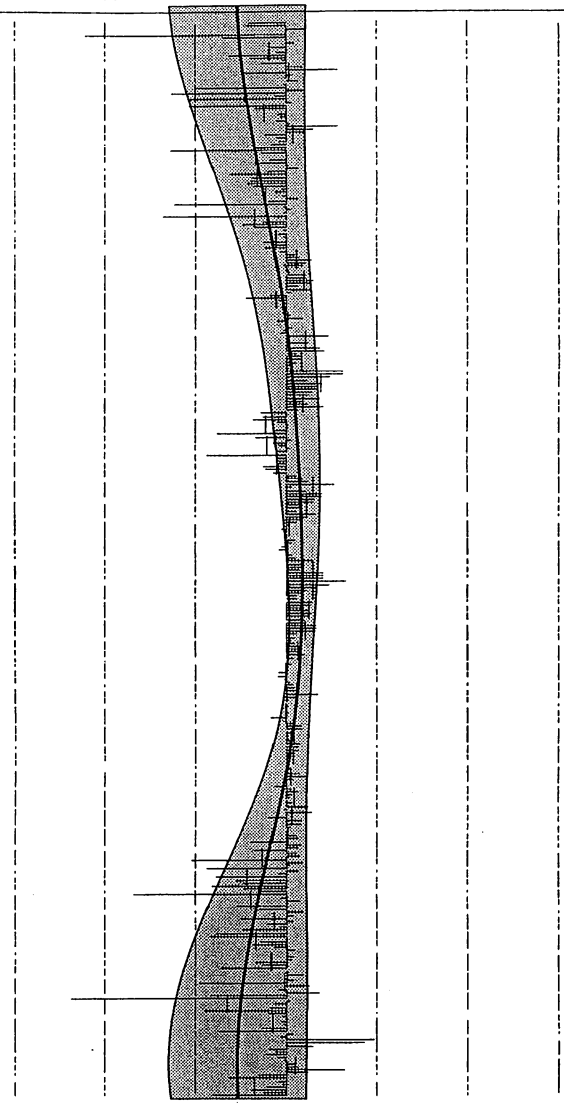
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-80	-88	47	0	-443	-138	1	-100
14 JAN	18	-30	4	-18	-124	-77	-7	-33
21 JAN	-51	37	114	-91	16	-3	27	7
28 JAN	-4	-198	40	-253	-21	-212	12	-91
4 FEB	-212	-69	-2	-15	-12	-17	7	-46
11 FEB	116	61	44	-43	-19	-15	-30	16
18 FEB	-64	-255	-51	2	-31	-55	8	-64
25 FEB	28	-39	-123	-75	-77	-81	-71	-63
4 MAR	-11	-24	-8	25	-39	-245	-3	-44
11 MAR	11	-5	-270	-1	-48	-94	-64	-67
18 MAR	-6	-15	-5	1	-48	-28	-47	-21
25 MAR	-14	18	30	56	42	38	5	25
1 APR	6	43	43	60	55	26	55	41
8 APR	9	-35	-88	-15	-11	-11	-6	-22
15 APR	-11	10	38	-21	4	13	-6	4
22 APR	-11	94	-2	50	7	73	86	42
29 APR	20	35	32	20	9	7	124	35
6 MAY	123	95	46	79	71	70	57	77
13 MAY	51	73	36	47	83	27	-53	38
20 MAY	-48	-71	-17	3	4	-21	-150	-43
27 MAY	-67	11	-26	-14	7	-19	-174	-40
3 JUN	-18	-20	-20	-50	-42	-27	23	-22
10 JUN	37	50	108	12	44	81	81	59
17 JUN	63	63	31	30	25	65	45	46
24 JUN	34	24	5	-9	-4	-5	-5	6
1 JUL	21	13	-10	-16	-1	12	21	6
8 JUL	57	40	39	29	82	81	83	59
15 JUL	131	96	67	45	35	23	22	60
22 JUL	58	54	41	53	56	50	39	50
29 JUL	43	69	69	66	24	20	10	43
5 AUG	18	36	35	33	40	17	5	26
12 AUG	12	4	-1	-17	-18	-3	6	-2
19 AUG	16	18	29	71	28	8	0	24
26 AUG	4	2	5	5	-32	2	12	-1
2 SEP	34	36	10	5	5	13	30	19
9 SEP	26	26	19	17	10	1	3	14
16 SEP	10	-2	30	43	15	-9	-24	9
23 SEP	11	28	12	7	2	12	50	17
30 SEP	-4	58	2	-38	36	33	9	14
7 OCT	4	0	23	26	-78	35	26	5
14 OCT	-69	22	28	-208	34	8	-172	-51
21 OCT	27	-16	-155	-109	-92	-163	-93	-86
28 OCT	-60	-336	-11	29	5	-107	-56	-76
4 NOV	39	16	-100	16	-40	-12	-97	-25
11 NOV	-153	-165	-2	-55	-75	-27	18	-65
18 NOV	6	15	11	-66	-51	-144	5	-32
25 NOV	38	5	16	-190	52	-17	74	-3
2 DEC	-166	-474	7	-24	-32	-177	-38	-129
9 DEC	-6	0	-11	-4	-51	-145	15	-29
16 DEC	-12	195	174	61	-35	-24	-39	46
23 DEC	-18	-6	17	28	130	47	-60	20
30 DEC	-127	-14	-7	-40	-74	-46	-161	-67



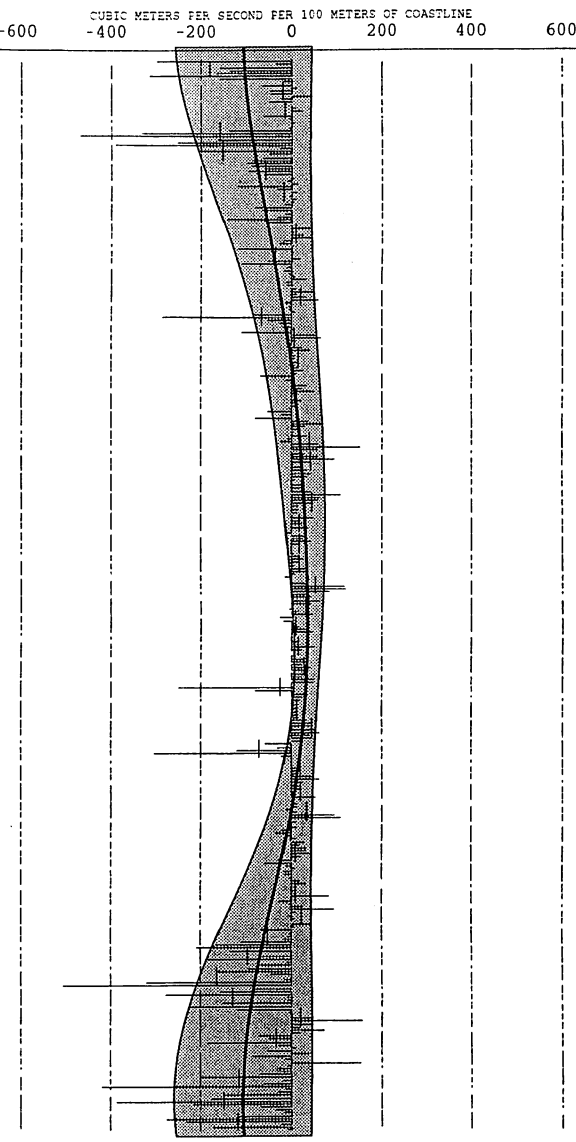
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-296	-36	-157	-138	-163	-313	-157	-180
13 JAN	-14	-61	12	-47	-44	45	-21	-18
20 JAN	-50	1	9	22	2	-61	-4	-12
27 JAN	8	1	-3	-138	-328	-469	-160	-156
3 FEB	-252	-390	-25	-202	-47	-62	-88	-152
10 FEB	-96	-88	-59	-93	-61	7	-6	-57
17 FEB	14	-118	-28	13	-3	9	7	-15
24 FEB	-14	-79	-65	-13	-30	-142	-51	-56
3 MAR	-2	45	5	25	44	-16	-25	11
10 MAR	5	-119	4	1	21	-48	-110	-35
17 MAR	-6	-12	-6	8	33	-11	-6	0
24 MAR	10	48	12	32	59	-11	-5	21
31 MAR	-5	7	-79	-286	-51	-25	-17	-65
7 APR	6	-109	57	65	10	-5	25	7
14 APR	44	4	9	9	14	9	17	15
21 APR	28	12	-67	-11	3	34	25	3
28 APR	48	5	3	21	5	9	-3	12
5 MAY	-51	-22	-80	38	72	30	22	1
12 MAY	8	36	-6	-22	60	153	58	41
19 MAY	30	56	96	44	5	27	36	42
26 MAY	42	34	8	-3	31	17	42	24
2 JUN	110	66	61	48	15	16	12	47
9 JUN	5	47	21	25	38	-3	-13	17
16 JUN	26	28	42	20	-3	0	6	17
23 JUN	18	25	14	7	29	32	7	19
30 JUN	-13	1	29	119	120	84	33	53
7 JUL	47	64	47	2	-3	15	46	31
14 JUL	-23	-15	6	19	35	47	1	10
21 JUL	1	14	6	51	24	0	9	15
28 JUL	25	32	23	43	33	30	24	30
4 AUG	52	49	0	-249	-80	38	24	-24
11 AUG	20	6	8	11	10	16	19	13
18 AUG	36	44	42	55	63	41	45	46
25 AUG	26	-56	-29	-120	-301	-22	3	-71
1 SEP	-2	1	10	11	19	42	62	21
8 SEP	26	19	23	10	9	55	10	21
15 SEP	13	14	-10	12	95	109	9	34
22 SEP	2	12	-20	-36	-8	9	30	-2
29 SEP	18	32	36	39	20	-26	-57	9
6 OCT	-11	10	-15	-13	-5	18	33	2
13 OCT	1	-1	4	85	-1	-23	-4	9
20 OCT	17	96	9	-5	7	2	46	24
27 OCT	6	-67	-4	-8	-11	-109	-162	-51
3 NOV	-206	-136	-1	-62	-187	-10	-73	-96
10 NOV	-92	-160	-43	1	-17	-319	-504	-162
17 NOV	-77	-158	-277	-9	-6	-152	-225	-129
24 NOV	-118	-7	-2	50	156	48	21	21
1 DEC	72	21	-68	-49	-181	-26	11	-31
8 DEC	-53	39	-86	-12	153	-8	-28	1
15 DEC	-31	-69	-197	-19	-59	-418	-12	-115
22 DEC	-26	-150	-173	-384	-212	-66	-33	-149
29 DEC	-12	-118	-273	-230	-20	-171	-6	-118



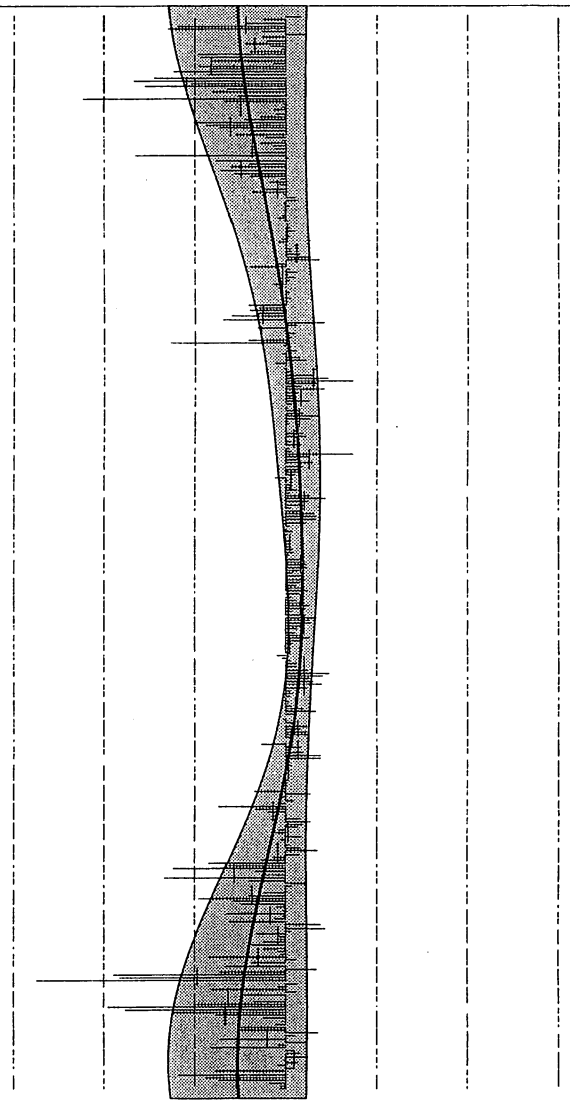
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	31	-46	-87	-238	-257	-52	42	-87
12 JAN	-47	-41	-90	-32	-8	-75	-191	-69
19 JAN	-185	-163	-28	-187	-166	-245	-167	-163
26 JAN	-287	-333	-207	-306	-126	-160	-103	-217
2 FEB	-445	-134	-6	-6	-25	-21	-57	-99
9 FEB	-90	-201	-178	-142	-79	-110	-43	-120
16 FEB	-6	-57	-27	-23	-78	-329	6	-73
23 FEB	-151	-80	-118	-142	-112	-80	-11	-99
1 MAR	-36	-13	-44	-74	-4	21	27	-18
8 MAR	-3	7	4	-2	-8	-18	4	-2
15 MAR	2	10	21	4	9	-7	-15	3
22 MAR	3	10	13	30	54	74	-21	23
29 MAR	-79	11	23	5	21	8	-28	-6
5 APR	-2	2	8	1	13	3	-81	-8
12 APR	-60	-79	-64	-122	-139	84	25	-51
19 APR	-63	-4	21	13	-81	-255	-5	-54
26 APR	4	23	-7	30	44	-21	-1	10
3 MAY	-3	16	59	94	147	71	32	59
10 MAY	86	26	22	21	49	13	6	32
17 MAY	25	39	70	52	6	8	3	29
24 MAY	-2	38	44	-2	13	34	6	19
31 MAY	12	149	48	28	60	37	33	53
7 JUN	31	20	-25	7	13	11	22	11
14 JUN	9	53	87	48	39	12	32	40
21 JUN	62	65	64	43	9	5	14	38
28 JUN	6	-4	13	8	7	14	18	9
5 JUL	8	29	42	46	46	35	14	31
12 JUL	32	44	28	25	40	48	30	35
19 JUL	12	23	35	52	43	15	43	32
26 JUL	69	51	55	36	24	22	33	41
2 AUG	51	30	16	-2	-2	0	-19	11
9 AUG	-8	13	25	24	48	96	83	40
16 AUG	55	59	78	45	11	17	10	39
23 AUG	1	10	13	38	67	23	2	22
30 AUG	-4	13	45	31	47	51	11	28
6 SEP	0	-53	31	9	39	78	78	26
13 SEP	11	11	4	10	6	1	8	7
20 SEP	6	5	-6	-69	53	-6	18	0
27 SEP	-15	-146	-67	-37	4	31	54	-25
4 OCT	34	27	-14	-24	35	-10	-1	7
11 OCT	11	33	71	29	-25	-51	-169	-15
18 OCT	-123	-246	-66	-52	-264	-80	45	-112
25 OCT	14	1	-45	-78	-192	-111	-96	-72
1 NOV	-18	-3	-129	-3	-21	-125	77	-32
8 NOV	89	9	-61	-13	-14	-50	-73	-16
15 NOV	-48	-15	-10	-164	23	-75	-129	-60
22 NOV	67	-140	-376	-362	-550	24	-15	-193
29 NOV	-162	21	-91	3	-69	-197	-390	-126
6 DEC	-353	-246	-152	-48	-9	-21	-98	-132
13 DEC	-99	70	21	-142	42	-13	-163	-41
20 DEC	17	32	50	-4	26	-15	19	18
27 DEC	-154	-234	-177	-146	-34	-10	-11	-109

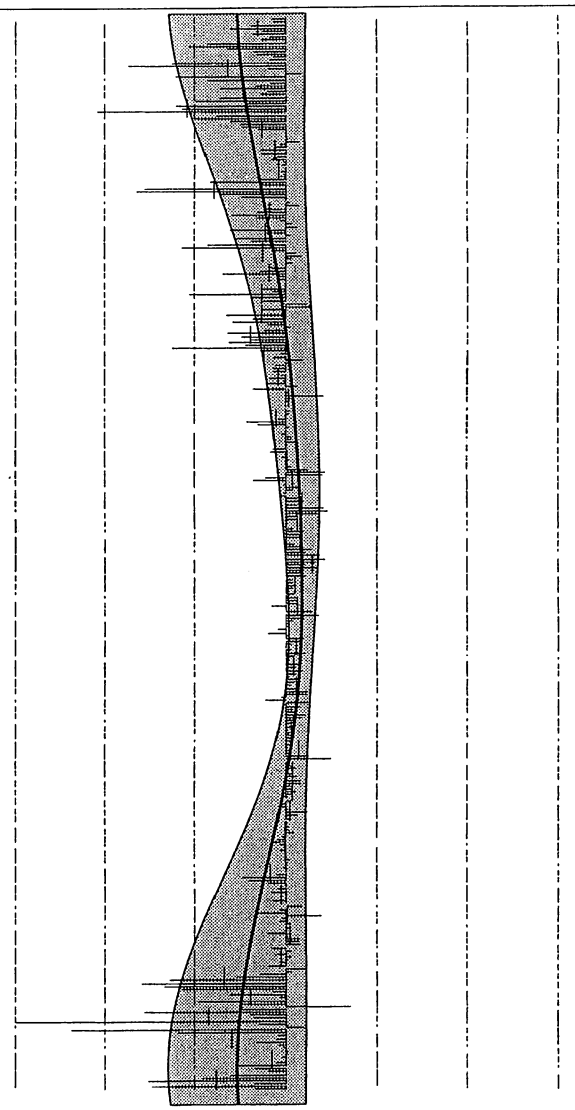


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1993 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-30	-26	-75	-121	-51	-71	-35	-58
10 JAN	-50	-171	-209	-126	-69	-59	-28	-102
17 JAN	-36	-249	-346	-37	-5	35	-239	-125
24 JAN	-171	-31	-66	-143	-37	-54	-142	-92
31 JAN	-195	-84	-240	-227	-414	-152	-199	-216
7 FEB	-121	-97	-96	-59	-2	1	4	-53
14 FEB	28	-13	-23	-56	-51	-19	-32	-24
21 FEB	-5	-7	-2	-10	-5	-16	-57	-14
28 FEB	-165	-51	-309	-327	-147	-95	-1	-156
7 MAR	11	30	-42	-59	-118	-62	-9	-36
14 MAR	13	25	-121	-40	10	-108	-77	-42
21 MAR	-170	-228	-30	24	34	13	15	-49
28 MAR	0	-29	-54	-137	-18	-13	3	-35
4 APR	-2	-52	-28	-210	-75	-45	45	-52
11 APR	54	-51	-4	-130	-71	-116	-38	-51
18 APR	11	-45	-126	-97	-73	-124	-88	-77
25 APR	-250	-55	-10	-25	38	10	-21	-45
2 MAY	-26	-26	-11	-35	-5	-38	27	-16
9 MAY	-71	6	84	13	9	2	1	6
16 MAY	11	7	-3	-16	-86	-60	8	-20
23 MAY	-3	-8	11	12	21	3	-27	1
30 MAY	-33	-1	-6	8	-1	13	48	4
6 JUN	87	81	-44	-70	-4	36	15	14
13 JUN	-5	-9	27	41	28	85	94	37
20 JUN	71	28	23	4	-1	17	41	26
27 JUN	30	35	0	18	35	56	43	31
4 JUL	75	88	67	43	71	32	35	59
11 JUL	46	15	15	23	15	6	17	20
18 JUL	27	25	24	-29	1	56	73	25
25 JUL	41	17	6	5	-18	-37	6	3
1 AUG	40	35	12	-2	13	44	19	23
8 AUG	7	3	28	24	38	23	9	19
15 AUG	24	17	11	30	48	46	-10	24
22 AUG	-42	48	32	19	22	43	37	22
29 AUG	18	18	12	5	7	13	19	13
5 SEP	14	9	3	10	12	51	102	29
12 SEP	10	13	22	4	13	23	32	16
19 SEP	34	9	15	23	11	3	14	16
26 SEP	-5	-8	7	48	25	7	-3	10
3 OCT	3	6	6	17	-7	-17	-23	-2
10 OCT	-14	-5	-10	-1	4	11	5	-2
17 OCT	1	-4	0	-17	-92	-80	-37	-33
24 OCT	1	-14	-29	1	-1	-26	3	-9
31 OCT	35	-14	-61	78	-6	-13	9	4
7 NOV	6	-3	-38	5	32	28	31	9
14 NOV	-29	12	-18	12	3	-12	-35	-10
21 NOV	43	13	-54	-107	-254	-316	-265	-134
28 NOV	-222	-27	-120	-9	-191	-102	143	-75
5 DEC	-97	-311	-76	-69	-598	-58	40	-167
12 DEC	-475	-234	-15	-19	-61	-12	-4	-117
19 DEC	-1	5	-7	-3	-22	-102	-67	-28
26 DEC	-38	-121	-179	-302	-69	-294	-66	-153



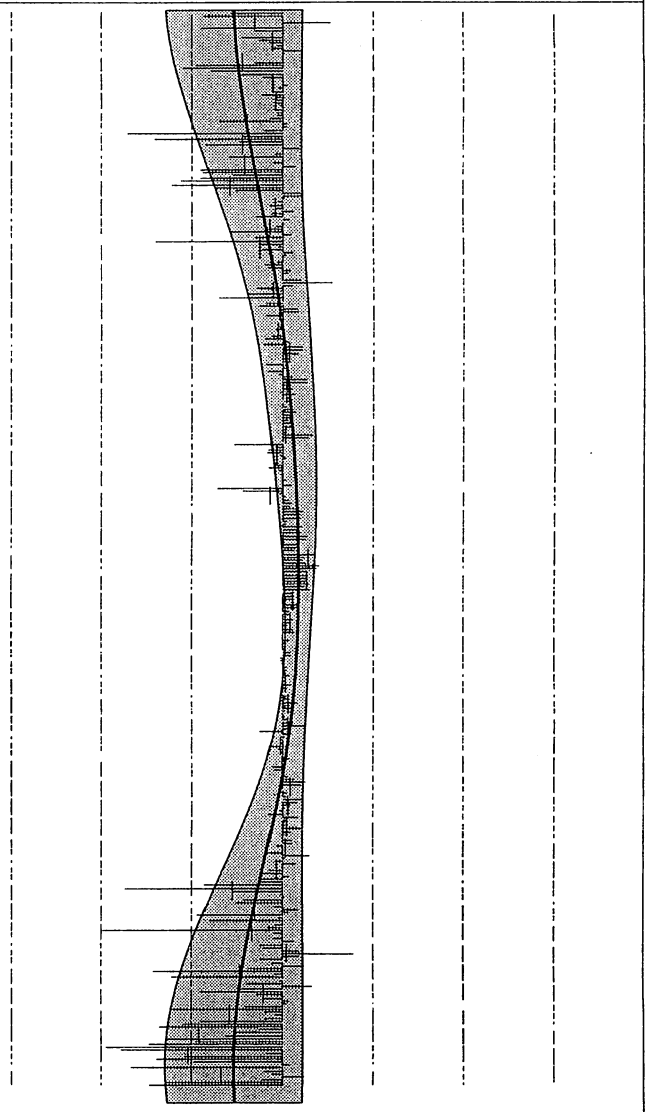
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-112	-173	-3	108	2	-176	-59	-59
9 JAN	3	-86	-49	-26	-11	-19	43	-21
16 JAN	5	-2	-1	-57	-187	-217	-157	-88
23 JAN	-89	-40	-2	1	9	-9	-20	-21
30 JAN	-43	-15	-12	-9	-7	-16	-9	-16
6 FEB	-11	-28	-141	9	9	-39	-340	-77
13 FEB	-84	-281	-92	-167	37	0	-19	-87
20 FEB	-115	-1	-22	31	-180	-173	-108	-81
27 FEB	-180	-223	-242	-149	-102	39	47	-116
6 MAR	4	-11	-28	-13	24	-20	-56	-14
13 MAR	16	2	-11	-35	-116	22	-59	-26
20 MAR	-278	-49	-9	-42	23	10	-1	-49
27 MAR	-10	-37	-31	20	13	1	42	0
3 APR	111	21	-57	-5	-77	-140	0	-21
10 APR	-35	-49	32	36	-35	-5	4	-7
17 APR	1	-7	-14	-2	-21	-38	13	-10
24 APR	-40	43	42	35	0	10	18	15
1 MAY	-35	3	-30	-7	24	54	53	9
8 MAY	13	23	-5	31	0	2	0	9
15 MAY	10	27	31	14	25	13	14	19
22 MAY	20	10	10	68	57	-1	-108	8
29 MAY	-11	-29	-31	-5	9	-1	-16	-12
5 JUN	-31	-6	1	0	6	2	21	-1
12 JUN	-143	-89	-7	8	14	20	14	-26
19 JUN	28	46	40	40	11	10	44	31
26 JUN	31	44	54	51	4	31	29	35
3 JUL	27	71	50	43	52	82	76	57
10 JUL	53	51	54	52	58	49	60	54
17 JUL	24	26	22	8	37	31	15	23
24 JUL	15	5	24	20	12	24	27	18
31 JUL	2	-2	18	9	1	6	18	7
7 AUG	17	-5	-4	0	10	9	11	5
14 AUG	17	2	5	17	10	-1	3	7
21 AUG	8	13	32	19	21	6	-1	14
28 AUG	5	13	23	52	13	-49	22	11
4 SEP	4	1	-4	-24	-10	-4	2	-5
11 SEP	14	5	-1	-21	-17	-2	12	-1
18 SEP	25	50	40	-1	1	9	13	19
25 SEP	44	31	19	6	-8	-30	34	14
2 OCT	10	4	3	41	18	0	-2	11
9 OCT	22	20	-12	1	-38	60	3	8
16 OCT	-10	29	-1	-26	-48	14	-49	-13
23 OCT	-49	-170	-345	-109	-4	4	-86	-108
30 OCT	-103	-15	35	13	-187	-6	-161	-61
6 NOV	-15	-30	-400	-18	1	-19	27	-65
13 NOV	-49	-41	39	158	37	-46	-22	11
20 NOV	49	-73	-286	-16	-244	-4	-75	-93
27 NOV	66	-92	-177	-54	-39	13	11	-39
4 DEC	-79	-243	-37	-15	-37	-177	-218	-115
11 DEC	-270	-48	-102	-124	-255	-192	-293	-183
18 DEC	-387	-356	-32	-213	-277	-192	15	-206
25 DEC	-332	-38	-22	48	-42	-255	-294	-134



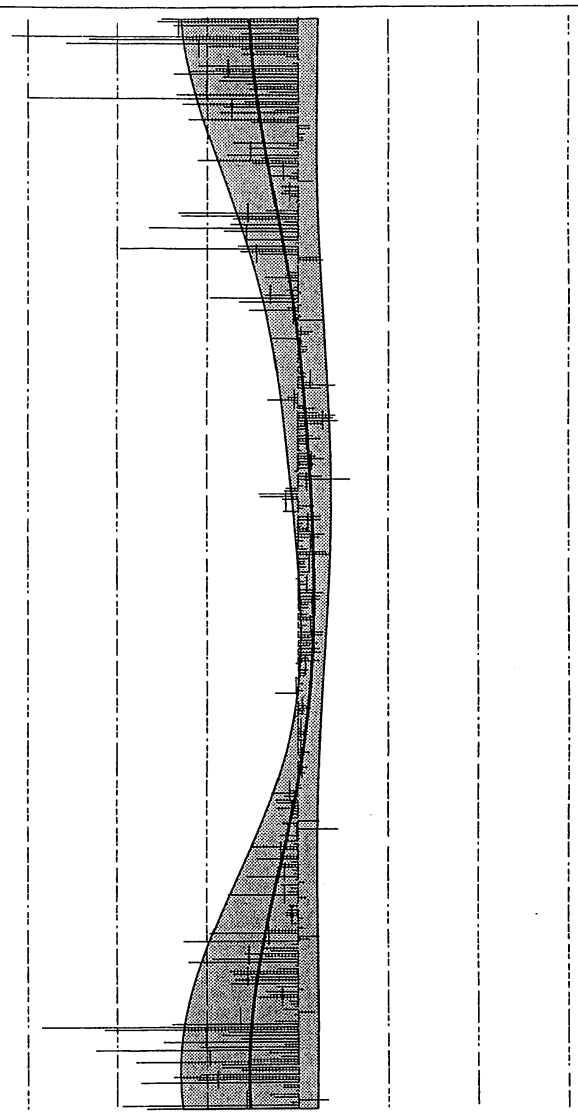
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 48N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-301	-310	-274	-153	-41	-123	-636	-262
8 JAN	-462	-512	-196	-124	-90	-123	-27	-219
15 JAN	4	-9	-218	-181	-240	-275	-163	-155
22 JAN	-174	-109	-98	-106	-62	-267	-603	-203
29 JAN	-116	-253	-162	-52	-173	-22	-241	-146
5 FEB	-102	26	27	-1	14	10	12	-2
12 FEB	-142	-19	-108	-8	-158	-78	-221	-105
19 FEB	-99	-65	-1	-12	-58	-19	31	-32
26 FEB	3	-34	-29	-38	-16	-1	-4	-17
5 MAR	5	-2	-69	-262	-258	-143	-29	-108
12 MAR	-148	-329	-162	3	-34	-113	-5	-113
19 MAR	-132	-392	-126	-82	45	56	1	-90
26 MAR	-3	-3	-17	-26	-71	-20	-2	-20
2 APR	-6	-25	8	-72	-192	-130	8	-59
9 APR	-23	-107	2	8	55	-5	-6	-11
16 APR	-5	34	22	-54	13	11	20	6
23 APR	22	18	0	2	-3	3	4	7
30 APR	-1	17	19	6	34	84	52	30
7 MAY	3	-8	-20	-66	-5	15	40	-6
14 MAY	45	84	79	90	55	25	14	56
21 MAY	7	34	50	24	23	4	11	22
28 MAY	25	39	61	31	41	32	-8	31
4 JUN	12	55	116	5	13	-28	-30	21
11 JUN	-85	-82	-34	5	37	11	-32	-26
18 JUN	1	50	52	14	8	20	30	25
25 JUN	59	48	14	-3	10	22	64	31
2 JUL	73	23	18	16	17	6	23	25
9 JUL	14	-5	13	19	1	41	56	20
16 JUL	49	48	41	25	24	12	22	31
23 JUL	31	28	0	20	10	56	54	28
30 JUL	30	35	45	28	48	51	36	39
6 AUG	23	46	-3	4	23	17	16	18
13 AUG	-1	3	12	-1	11	-49	-1	-4
20 AUG	1	3	19	28	16	14	-5	11
27 AUG	-3	2	2	5	23	18	8	8
3 SEP	9	-2	-2	10	25	11	9	8
10 SEP	12	7	20	8	16	7	-1	10
17 SEP	5	8	10	-18	-56	-30	-45	-18
24 SEP	-43	-9	-46	-14	-13	-7	48	-12
1 OCT	-32	-6	89	-4	-38	4	-25	-2
8 OCT	-7	-101	-26	0	-35	-88	-13	-39
15 OCT	-41	-44	-9	-6	-110	-4	16	-28
22 OCT	-38	-11	-21	-155	21	1	-3	-29
29 OCT	-20	-21	-26	-23	12	1	-6	-12
5 NOV	13	-74	-193	49	26	-251	-13	-63
12 NOV	-77	-57	-116	-70	-186	-240	-3	-107
19 NOV	-43	-148	-141	-102	-141	-145	-47	-109
26 NOV	9	-68	-60	-87	-18	-16	-7	-35
3 DEC	-29	38	-7	4	-50	-278	-569	-127
10 DEC	-427	-151	-166	-123	-297	-33	-213	-201
17 DEC	-445	-62	-38	-107	-357	-169	-169	-192
24 DEC	-123	-213	-273	-222	-347	-31	-36	-178
31 DEC	-5	-61	-51	68	-18	-388	-332	-112

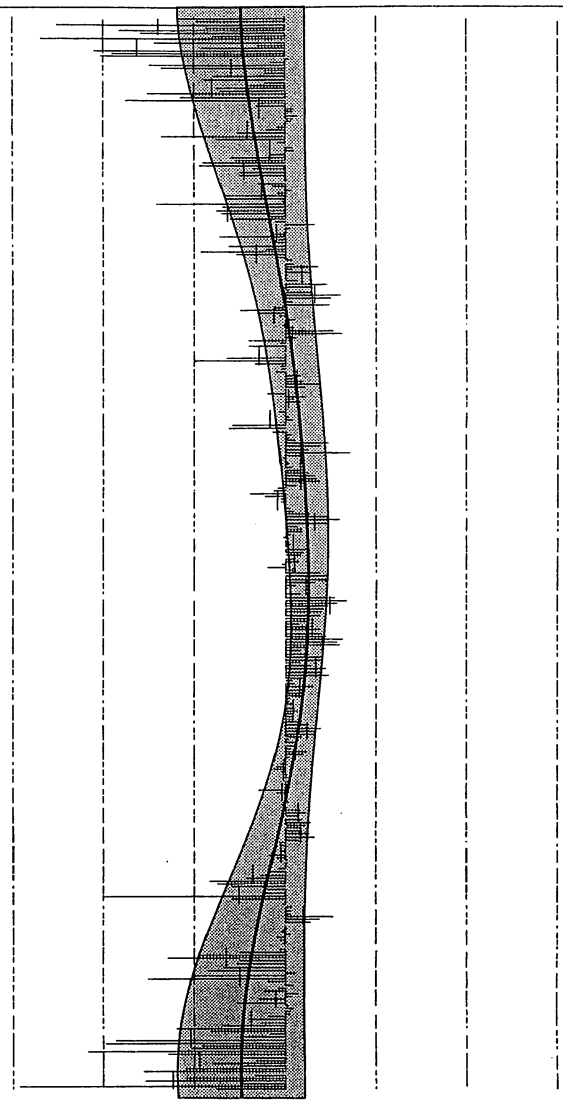


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-233	-192	-502	-171	-362	-314	-157	-276
12 JAN	-539	-286	-60	-179	-419	-380	-404	-324
19 JAN	6	-30	-295	-272	-44	-42	-157	-119
26 JAN	-177	-42	-79	-147	-140	-302	-230	-159
2 FEB	-349	-57	-63	17	14	27	18	-56
9 FEB	14	-1	-19	-40	-106	-270	-152	-82
16 FEB	-16	2	14	19	-29	-117	-106	-33
23 FEB	-181	-188	-68	-99	-98	1	1	-90
2 MAR	-58	-25	13	-16	-135	-130	-7	-51
9 MAR	-281	-138	-149	-139	-29	-122	-20	-125
16 MAR	66	9	2	-23	-144	-13	-21	-18
23 MAR	-123	-41	-184	-106	-10	13	17	-62
30 MAR	74	15	50	7	0	26	92	38
6 APR	59	7	58	125	102	14	99	66
13 APR	-22	-98	-59	-10	22	-1	-5	-25
20 APR	19	107	126	23	-78	-9	-78	16
27 APR	0	-1	-1	-128	-199	-66	-8	-58
4 MAY	-7	-18	34	19	40	75	42	26
11 MAY	-5	-37	44	18	34	0	-1	8
18 MAY	-11	-1	8	17	-4	-114	-125	-33
25 MAY	-26	13	10	21	96	79	51	35
1 JUN	144	42	-4	0	8	12	38	34
8 JUN	54	65	70	77	24	-14	-22	36
15 JUN	-76	-42	-9	-9	2	10	19	-15
22 JUN	54	96	121	91	27	37	37	66
29 JUN	13	-4	-2	13	8	53	41	17
6 JUL	36	20	29	-6	-37	22	77	20
13 JUL	96	94	67	25	8	2	34	46
20 JUL	110	134	116	96	84	83	76	100
27 JUL	45	51	31	50	75	81	92	60
3 AUG	126	116	121	49	34	56	80	83
10 AUG	81	34	57	89	81	95	41	68
17 AUG	14	21	62	43	37	42	11	33
24 AUG	9	15	22	26	17	14	17	17
31 AUG	39	52	80	65	69	38	7	50
7 SEP	27	21	13	50	41	10	-4	22
14 SEP	-9	-19	-22	-6	4	11	4	-5
21 SEP	12	9	-57	-19	-2	1	7	-7
28 SEP	-6	7	35	46	31	37	58	30
5 OCT	43	31	38	53	67	31	-13	35
12 OCT	-8	-1	-11	-36	-18	5	5	-9
19 OCT	0	-17	-29	-55	-86	-167	-147	-71
26 OCT	-115	-37	-47	-396	-115	1	-4	-102
2 NOV	12	13	14	107	77	58	1	40
9 NOV	4	-7	14	-18	-11	3	2	-2
16 NOV	-11	-98	-191	-256	-100	-103	-136	-128
23 NOV	-169	21	-203	-302	-39	17	-16	-99
30 NOV	-44	30	12	-58	-103	7	18	-20
7 DEC	13	13	-34	-79	-48	-137	-239	-73
14 DEC	-162	-31	-98	-370	-394	-182	-203	-206
21 DEC	-436	-258	-95	-62	-161	-90	-217	-188
28 DEC	-309	-64	-216	-306	-95	-586	-151	-247



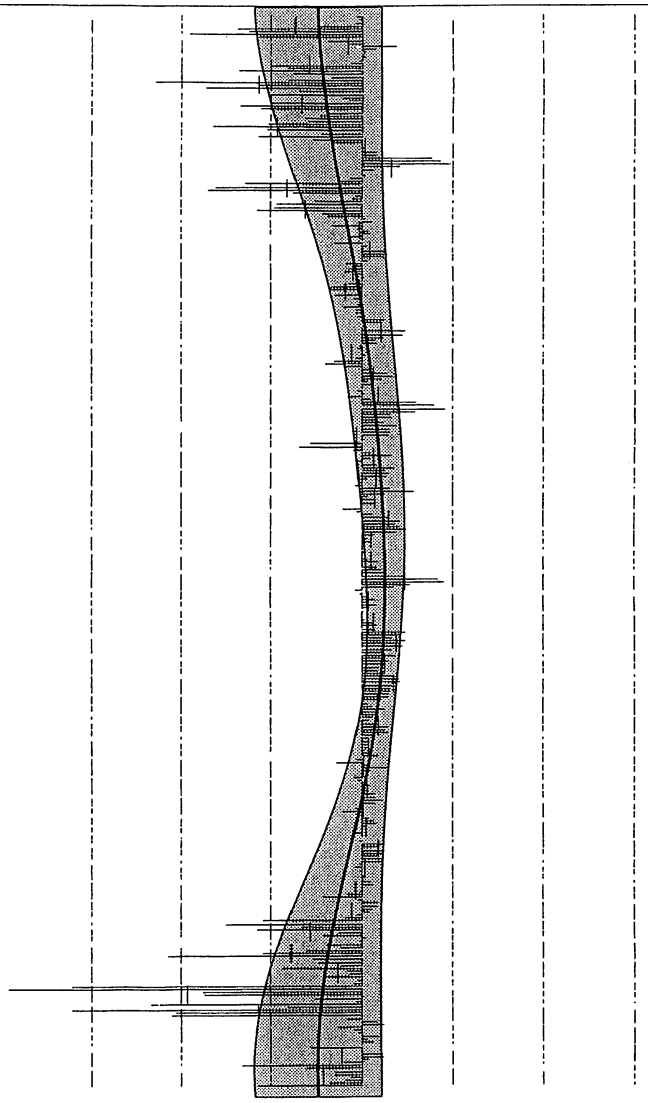
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	-10	-6	-14	-96	-274	-248	-379	-147
11 JAN	-224	-72	-27	76	30	10	4	-29
18 JAN	8	-4	-23	-199	-163	-271	-148	-114
25 JAN	-65	-160	-457	-223	-344	-137	-202	-227
1 FEB	-41	-26	-199	-267	-221	-73	-92	-131
8 FEB	-122	-117	-204	-327	-208	-89	-226	-185
15 FEB	-105	-62	-1	6	32	33	154	8
22 FEB	173	197	86	28	0	7	-23	67
1 MAR	-43	-257	-322	-339	-149	-14	-21	-163
8 MAR	-103	-186	-190	-230	-85	-75	7	-123
15 MAR	23	-62	-6	13	17	-23	8	-4
22 MAR	-57	10	3	52	57	47	13	18
29 MAR	-36	-22	-27	-36	-7	4	-7	-19
5 APR	-27	-67	-69	-3	-58	-16	-4	-35
12 APR	-10	-39	-10	-10	-6	49	43	3
19 APR	3	3	95	91	49	31	32	43
26 APR	-5	-8	1	11	-9	-59	-81	-21
3 MAY	-35	20	57	69	43	14	25	27
10 MAY	2	-8	8	-30	17	121	160	39
17 MAY	184	117	64	66	37	50	78	85
24 MAY	59	64	61	3	0	-114	-136	-9
31 MAY	-17	21	64	19	-7	33	71	26
7 JUN	53	60	54	12	-7	-14	63	32
14 JUN	114	50	14	29	32	1	-40	29
21 JUN	-9	23	58	86	73	86	99	59
28 JUN	77	28	11	18	7	5	1	21
5 JUL	9	0	12	34	5	33	43	19
12 JUL	55	96	168	183	106	72	-12	95
19 JUL	-3	12	29	13	31	19	4	15
26 JUL	-1	-1	6	24	36	30	95	27
2 AUG	85	68	97	82	90	67	46	76
9 AUG	75	52	60	53	37	36	54	52
16 AUG	70	82	86	66	64	62	61	70
23 AUG	58	42	12	22	49	38	30	36
30 AUG	24	15	36	58	53	58	28	39
6 SEP	16	15	12	10	8	18	34	16
13 SEP	-10	-55	18	60	20	3	-15	3
20 SEP	-9	3	18	5	16	28	32	13
27 SEP	47	30	0	-14	-41	0	14	5
4 OCT	27	31			6	1	-18	9
11 OCT	-5	45	42	49	43	34	50	37
18 OCT	47	-6	-13	-5	3	9	5	6
25 OCT	20	24	2	-4	-33	-86	-7	-12
1 NOV	34	34	25	17	-9	-36	-214	-21
8 NOV	-300	-132	-228	-50	-81	11	-3	-112
15 NOV	-76	-44	-120	-216	-430	-108	-94	-155
22 NOV	-42	-173	-30	-23	-79	-7	-14	-53
29 NOV	-642	-786	-350	-347	-101	-12	-466	-386
6 DEC	-161	-643	-409	-420	-31	31	50	-226
13 DEC	-52	-15	-6	39	12	25	-2	0
20 DEC	-109	0	46	48	14	-39	-263	-43
27 DEC	-121	-58	-59	-24	-35	-68	-226	-84

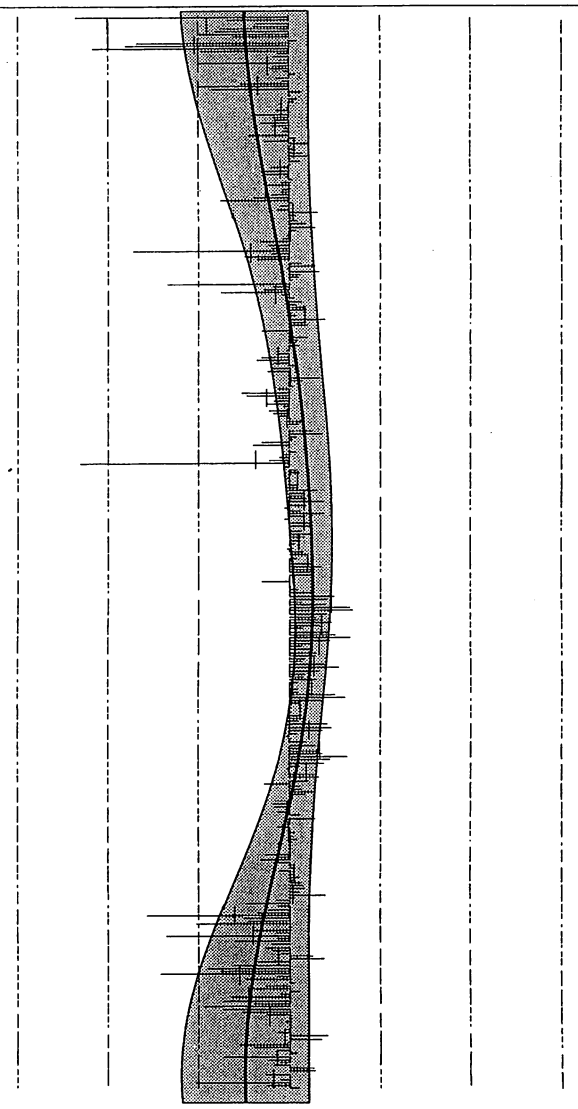


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-470	-131	-67	-75	-152	-160	-195	-179
10 JAN	-120	17	-335	-361	-432	-193	-24	-207
17 JAN	-32	-20	-197	-35	-40	-9	12	-46
24 JAN	-27	-13	-107	-200	-169	29	4	-69
31 JAN	17	12	-1	-5	-27	-74	-31	-15
7 FEB	-28	-60	-35	-9	-12	-85	15	-31
14 FEB	-51	40	5	16	30	40	3	12
21 FEB	24	3	-37	-59	-48	-8	7	-17
28 FEB	-15	-48	-12	-19	-38	-78	-147	-51
6 MAR	8	-19	-23	62	16	4	17	9
13 MAR	37	58	16	-1	-4	-13	-62	5
20 MAR	-43	-37	-342	-39	-98	-72	28	-86
27 MAR	56	-3	66	22	20	8	-269	-14
3 APR	-34	-55	-148	-16	12	25	16	-29
10 APR	33	38	6	17	80	35	40	35
17 APR	4	-59	-4	40	18	15	22	5
24 APR	3	-5	-21	-60	-70	-32	21	-23
1 MAY	-36	-47	-2	68	29	0	10	3
8 MAY	-21	-105	-92	-26	-32	-47	-11	-48
15 MAY	-43	-34	-22	4	35	21	0	-5
22 MAY	52	73	16	8	-61	-78	1	2
29 MAY	12	-13	-21	-44	-459	-11	15	-74
5 JUN	20	4	-5	3	18	20	59	17
12 JUN	35	30	37	78	38	-10	24	33
19 JUN	77	35	-9	44	46	-1	26	31
26 JUN	46	35	25	10	2	-4	30	20
3 JUL	37	15	9	49	70	51	55	41
10 JUL	48	-1	-59	3	4	18	49	9
17 JUL	99	82	28	79	134	140	81	92
24 JUL	57	63	94	64	30	84	101	70
31 JUL	136	90	49	27	51	57	56	66
7 AUG	35	30	76	109	66	35	33	55
14 AUG	59	17	3	19	21	103	124	49
21 AUG	72	23	3	-1	4	27	36	23
28 AUG	22	85	94	74	19	-4	5	42
4 SEP	38	56	26	67	74	128	89	68
11 SEP	77	23	-4	-2	60	64	39	37
18 SEP	-53	23	25	57	34	1	-30	8
25 SEP	-34	-33	-9	-23	20	58	-8	-4
2 OCT	-17	-24	0	9	6	15	7	-1
9 OCT	-1	1	0	-52	-25	-63	-34	-25
16 OCT	8	14	-20	9	20	13	26	10
23 OCT	29	32	21	78	10	-27	-94	7
30 OCT	-23	-47	-69	-313	-99	-90	-206	-121
6 NOV	3	-76	-27	-270	-22	-121	-39	-79
13 NOV	-52	-34	-19	51	76	-69	-121	-24
20 NOV	-176	-150	-285	-26	-92	9	-52	-110
27 NOV	-88	20	-18	-128	-146	-79	-189	-90
4 DEC	-147	-105	-48	-1	-6	-1	5	-43
11 DEC	-9	-23	84	72	-5	-108	-77	-9
18 DEC	-26	18	-143	-44	-22	-31	55	-28
25 DEC	58	-50	1	-18	-203	-45	22	-34



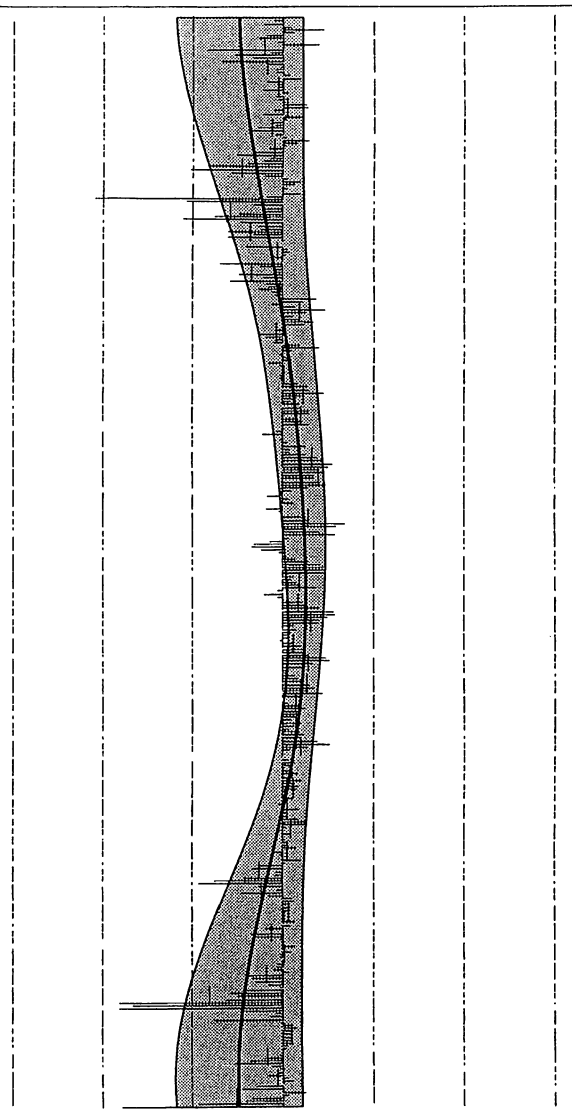
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-27	-20	-41	18	90	23	-34	1
8 JAN	-52	-9	80	1	-164	-24	-106	-39
15 JAN	-65	-132	-33	-4	-13	-12	15	-35
22 JAN	38	-34	-10	-10	-44	9	-12	-9
29 JAN	-11	5	51	54	-21	-44	43	11
5 FEB	8	-20	-16	-55	-72	-19	8	-24
12 FEB	56	32	8	-30	-63	-101	-26	-18
19 FEB	-41	-76	-165	-205	-112	-39	10	-90
26 FEB	37	27	10	1	38	-34	-416	-48
5 MAR	-211	-62	-39	-38	-95	-150	-220	-116
12 MAR	-93	-51	-46	-121	-63	-122	-1	-71
19 MAR	3	-78	12	14	7	-16	-1	-9
26 MAR	-138	-48	-14	-18	-95	-41	-114	-67
2 APR	-34	-31	-53	-21	-16	73	43	-5
9 APR	-22	27	93	49	21	38	67	39
16 APR	46	-1	-16	-52	-34	-9	-18	-12
23 APR	37	78	20	-7	8	11	-30	17
30 APR	-6	5	6	-5	-7	-3	33	3
7 MAY	54	58	91	43	19	18	36	46
14 MAY	37	58	57	3	29	43	58	40
21 MAY	6	-12	-42	2	-4	9	52	1
28 MAY	17	16	51	75	90	110	103	66
4 JUN	82	94	69	72	81	95	56	78
11 JUN	19	-5	-33	13	22	-5	-34	-3
18 JUN	-7	0	40	58	137	118	44	56
25 JUN	80	117	13	-28	-63	-68	-46	1
2 JUL	-7	10	26	57	82	94	91	50
9 JUL	90	24	19	29	41	74	-9	38
16 JUL	-40	-10	3	44	47	78	112	34
23 JUL	116	99	80	80	23	30	19	64
30 JUL	9	11	-5	22	41	47	47	24
6 AUG	57	97	105	68	44	12	7	56
13 AUG	27	31	40	60	71	58	87	53
20 AUG	44	2	11	35	48	41	31	30
27 AUG	26	18	40	23	13	37	46	29
3 SEP	40	77	103	57	15	2	-2	42
10 SEP	12	26	21	4	20	33	23	20
17 SEP	43	26	35	33	8	-2	24	24
24 SEP	2	-7	-1	36	8	9	31	11
1 OCT	49	52	8	-3	15	0	4	18
8 OCT	7	12	30	-14	-7	3	40	10
15 OCT	6	-48	-64	-12	-17	-84	-148	-52
22 OCT	-184	-53	-11	-90	-32	22	23	-47
29 OCT	15	17	17	5	4	6	28	13
5 NOV	16	-35	-2	-69	-61	-6	-2	-23
12 NOV	25	5	18	-5	-3	0	-9	4
19 NOV	-10	-17	11	-81	-65	-57	-29	-35
26 NOV	-4	-85	-114	-97	-124	-360	-330	-159
3 DEC	-360	-85	-12	-24	-150	-1	22	-87
10 DEC	33	24	19	20	22	22	9	21
17 DEC	8	0	-4	-37	-71	-104	-22	-33
24 DEC	-4	-11	-32	12	24	3	-53	-9
31 DEC	-87	50	14	-68	-81	-186	-354	-102

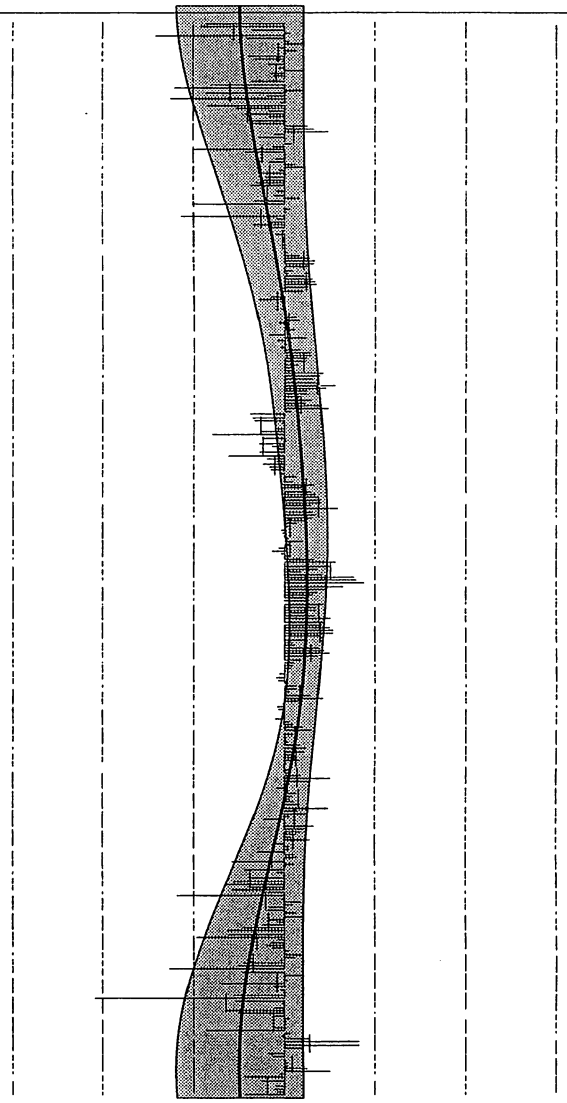


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1990 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-172	-183	-68	13	-283	-78	10	-109
14 JAN	42	-8	29	5	-76	-67	-5	-12
21 JAN	-34	-11	40	-27	-21	-1	-71	-18
28 JAN	-161	-241	42	-171	-38	-250	-6	-118
4 FEB	-168	-103	-33	-84	-34	-71	-70	-80
11 FEB	50	64	96	-20	-54	1	15	22
18 FEB	-24	-197	-86	-2	-17	-33	24	-48
25 FEB	47	-9	-49	-41	-48	-59	-71	-33
4 MAR	2	-18	-21	32	-63	-203	0	-39
11 MAR	13	4	-226	-14	-36	-67	-35	-51
18 MAR	-1	-18	-5	-1	-3	0	-2	-4
25 MAR	6	36	57	68	67	55	19	44
1 APR	9	43	64	68	70	52	42	49
8 APR	2	-28	-57	-8	-4	-7	-1	-15
15 APR	0	25	32	-11	2	21	-2	10
22 APR	-33	49	-15	3	-11	34	58	12
29 APR	57	50	47	30	19	15	84	43
6 MAY	78	64	67	113	91	49	50	73
13 MAY	37	60	47	81	96	16	-75	37
20 MAY	-67	-63	-3	1	-20	-50	-157	-51
27 MAY	-47	4	-55	-26	-17	-54	-121	-45
3 JUN	-37	-19	-47	-33	-29	-9	28	-21
10 JUN	5	18	64	48	59	67	76	48
17 JUN	80	82	61	118	63	68	59	76
24 JUN	43	28	9	-8	-4	0	11	11
1 JUL	41	12	-13	-26	-8	10	65	12
8 JUL	114	98	74	39	83	153	160	103
15 JUL	178	130	90	74	64	51	47	90
22 JUL	84	72	69	52	69	103	87	77
29 JUL	82	100	108	108	77	53	20	78
5 AUG	24	77	87	99	73	38	20	60
12 AUG	18	15	5	-11	-17	-13	5	0
19 AUG	26	26	11	56	85	35	-4	34
26 AUG	-15	-12	-1	-1	-21	11	21	-2
2 SEP	41	60	19	2	4	8	34	24
9 SEP	49	44	22	30	31	4	-2	25
16 SEP	11	11	38	100	60	6	-14	30
23 SEP	11	26	18	14	20	36	96	31
30 SEP	30	46	14	-43	5	66	44	23
7 OCT	36	25	16	57	-17	11	12	20
14 OCT	-57	22	27	-112	23	5	-85	-25
21 OCT	-18	-1	-71	-109	-125	-74	-112	-73
28 OCT	-36	-234	-4	38	18	-31	-36	-41
4 NOV	27	40	-31	-15	-45	-89	-123	-34
11 NOV	-122	-194	-13	-28	-39	-27	10	-59
18 NOV	38	23	-8	-88	-100	-252	-90	-68
25 NOV	44	1	7	-134	-24	-7	3	-16
2 DEC	-110	-416	-103	-4	-20	-130	-98	-126
9 DEC	-20	13	4	5	-20	-170	14	-25
16 DEC	-5	57	164	167	44	3	-35	56
23 DEC	-23	-2	6	7	52	103	-10	19
30 DEC	-84	-50	-2	-17	-21	-15	-82	-39

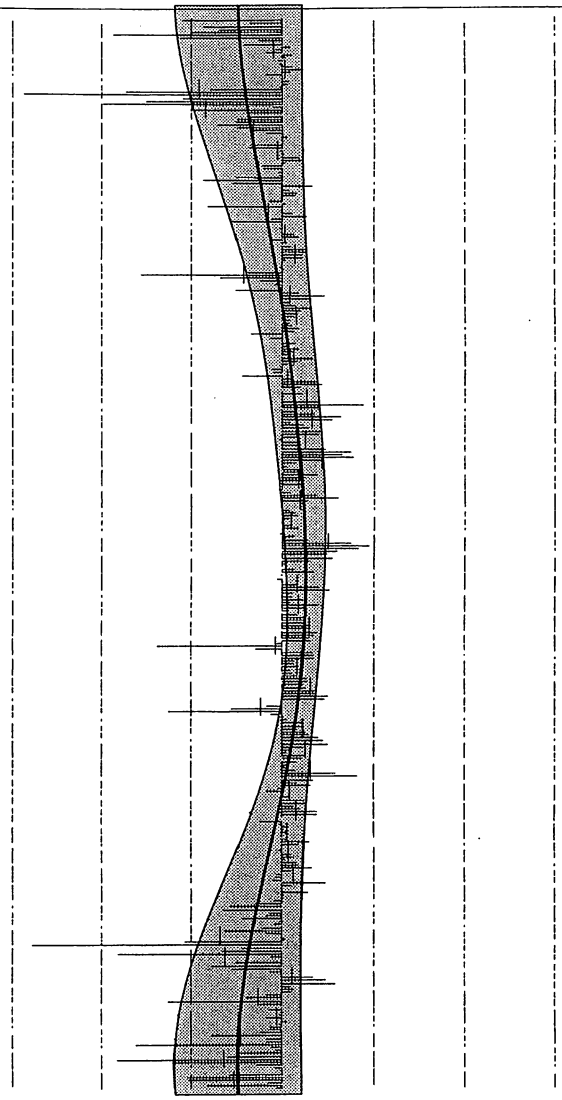


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1991 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-218	-72	-171	-139	-196	-374	-223	-199
13 JAN	-47	-83	18	-13	-31	20	9	-18
20 JAN	-7	-6	24	47	21	-34	0	7
27 JAN	16	13	-6	-156	-345	-575	-218	-182
3 FEB	-300	-397	-17	-201	-80	-75	-99	-167
10 FEB	-101	-141	-98	-63	-34	9	-1	-61
17 FEB	1	-72	-71	-4	3	38	41	-9
24 FEB	7	-44	-40	-7	-7	-102	-173	-52
3 MAR	-108	64	16	31	28	-1	-31	0
10 MAR	8	-163	-2	24	56	-24	-110	-30
17 MAR	-1	-4	-2	25	36	-22	9	6
24 MAR	21	47	50	44	44	6	-2	30
31 MAR	-3	5	-76	-309	-136	-46	-19	-83
7 APR	-4	-100	38	93	64	15	28	19
14 APR	66	41	35	27	19	18	25	33
21 APR	37	26	-69	-24	0	30	17	2
28 APR	39	22	16	66	35	13	-3	27
5 MAY	-21	-18	-86	19	71	87	41	13
12 MAY	0	44	6	-3	82	179	81	56
19 MAY	25	71	128	109	21	47	56	65
26 MAY	83	79	32	-8	34	43	96	51
2 JUN	151	131	156	91	31	11	46	88
9 JUN	46	77	52	48	46	0	-8	37
16 JUN	19	77	122	54	-2	3	16	41
23 JUN	29	36	15	-1	20	36	3	20
30 JUN	-6	29	56	153	189	167	120	101
7 JUL	100	109	63	7	3	30	69	54
14 JUL	-3	-10	6	35	79	104	24	34
21 JUL	25	46	19	80	50	19	34	39
28 JUL	45	51	49	64	62	77	68	59
4 AUG	61	62	-9	-275	-57	69	69	-11
11 AUG	67	31	26	38	19	23	35	34
18 AUG	55	53	49	51	70	70	100	64
25 AUG	94	-2	-32	-111	-248	-23	6	-45
1 SEP	11	45	42	36	51	57	81	46
8 SEP	91	100	45	17	10	51	44	51
15 SEP	32	16	10	29	118	167	69	63
22 SEP	36	61	-8	-32	-1	15	50	17
29 SEP	51	26	40	78	78	3	-46	33
6 OCT	-6	16	4	11	-3	11	59	13
13 OCT	37	1	-8	22	27	7	31	17
20 OCT	37	64	21	-10	-12	-17	95	26
27 OCT	21	-1	56	6	2	-14	-56	2
3 NOV	-111	-127	-22	-34	-86	-5	-15	-57
10 NOV	-42	-126	-31	2	10	-213	-554	-136
17 NOV	-88	-129	-363	-21	-3	-99	-154	-122
24 NOV	-107	-23	-3	68	95	117	19	24
1 DEC	27	22	-32	-79	-248	-52	2	-51
8 DEC	-26	5	-5	-33	12	-5	-25	-11
15 DEC	-29	-45	-155	-32	-32	-323	-22	-91
22 DEC	-12	-90	-118	-364	-240	-55	-14	-127
29 DEC	-4	-113	-206	-204	-29	-165	-11	-104



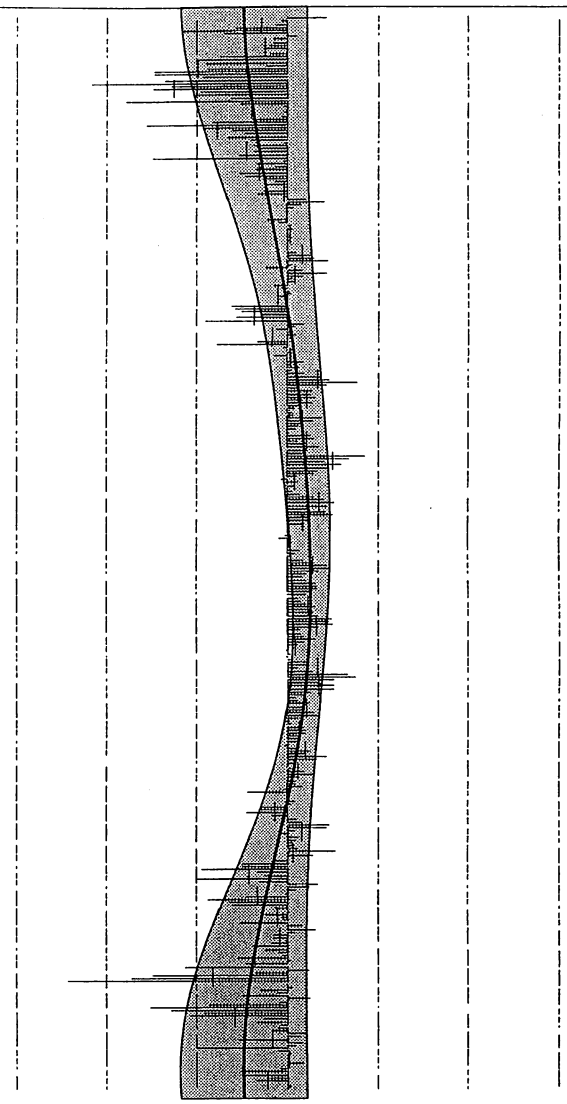
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	88	-14	-23	-113	-229	-137	21	-58
12 JAN	-29	-30	-41	-53	-3	-37	-146	-48
19 JAN	-198	-176	-46	-175	-293	-292	-186	-195
26 JAN	-270	-432	-258	-296	-189	-202	-123	-253
2 FEB	-356	-105	-7	-1	-7	-10	-77	-80
9 FEB	-164	-310	-183	-122	-93	-130	-79	-154
16 FEB	-6	-73	-66	-73	-107	-296	-11	-90
23 FEB	-69	-26	-68	-103	-93	-46	-26	-62
1 MAR	-50	-5	-51	-67	-5	41	81	-8
8 MAR	29	12	4	3	-2	-44	-18	-2
15 MAR	7	11	2	3	10	8	0	6
22 MAR	-1	2	19	49	59	92	8	32
29 MAR	-46	31	89	31	9	17	-30	14
5 APR	-12	4	8	-15	-4	-1	-123	-20
12 APR	-115	-103	-56	-113	-180	35	18	-73
19 APR	-25	11	19	1	-66	-154	-7	-31
26 APR	-1	5	-27	0	35	3	28	6
3 MAY	10	39	76	93	154	87	22	68
10 MAY	56	52	61	35	54	33	15	44
17 MAY	10	12	78	58	35	25	19	34
24 MAY	3	53	59	22	44	70	45	42
31 MAY	32	171	138	83	122	91	68	101
7 JUN	57	20	-12	24	14	-4	9	15
14 JUN	27	58	83	105	89	44	86	70
21 JUN	101	50	53	39	3	0	2	35
28 JUN	-4	-17	10	5	6	27	17	6
5 JUL	3	35	63	86	93	71	43	56
12 JUL	33	42	62	68	64	52	41	52
19 JUL	23	29	41	63	46	59	67	47
26 JUL	100	93	103	69	30	28	37	66
2 AUG	62	39	23	5	-2	7	-1	19
9 AUG	12	49	44	25	56	135	152	67
16 AUG	104	71	103	103	52	39	17	70
23 AUG	24	49	37	39	60	66	25	43
30 AUG	6	6	37	41	41	25	27	26
6 SEP	18	-3	22	51	41	87	67	40
13 SEP	12	-1	12	37	59	23	18	23
20 SEP	20	33	-7	-87	1	2	19	-3
27 SEP	8	-57	-62	-90	-32	20	31	-26
4 OCT	93	87	14	-16	23	18	13	33
11 OCT	15	25	108	56	1	-26	-98	11
18 OCT	-97	-187	-65	-49	-195	-60	67	-84
25 OCT	48	18	-4	-91	-173	-128	-120	-64
1 NOV	-26	4	-45	-9	-8	-103	34	-22
8 NOV	64	14	-30	-30	-7	-36	-77	-14
15 NOV	-47	-19	-9	-108	8	-90	-225	-70
22 NOV	48	-72	-295	-344	-485	-1	11	-162
29 NOV	-58	-21	-97	53	-14	-172	-302	-87
6 DEC	-256	-183	-213	-51	-67	-13	-22	-115
13 DEC	-33	41	30	-106	33	17	-199	-31
20 DEC	-17	9	6	3	36	-1	-13	3
27 DEC	-103	-98	-41	-67	2	11	-1	-43



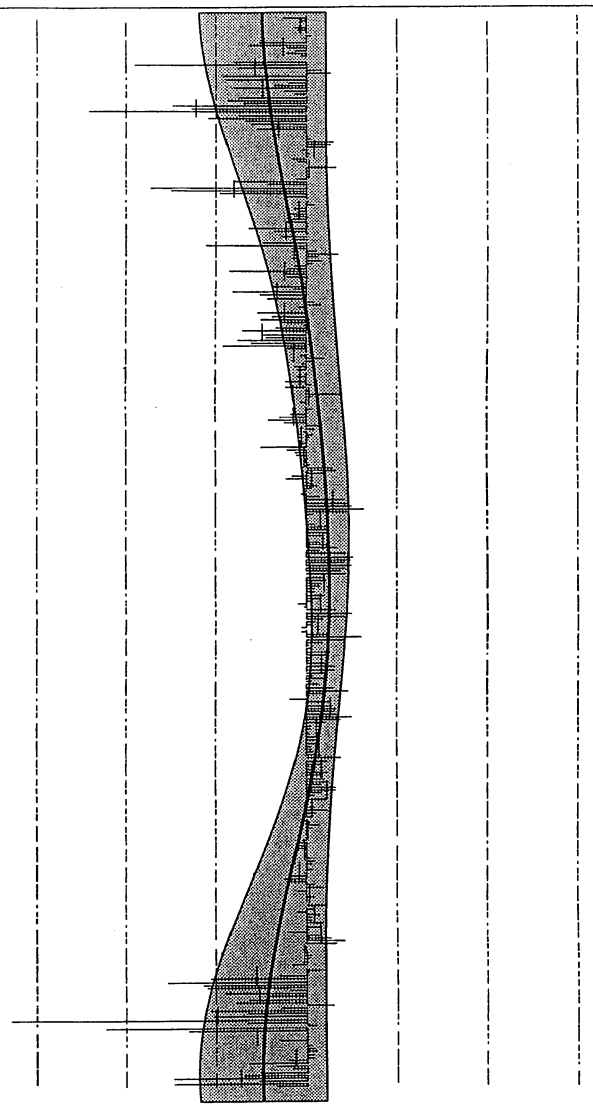
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-49	-11	2	-24	-18	1	11	-13
10 JAN	-4	-101	-126	-40	-22	-42	-11	-49
17 JAN	3	-161	-379	-150	33	54	-182	-112
24 JAN	-177	-38	-70	-159	-45	-27	-150	-95
31 JAN	-173	-137	-297	-253	-482	-149	-217	-244
7 FEB	-133	-120	-71	-108	-4	0	10	-61
14 FEB	60	55	46	-11	6	3	-31	18
21 FEB	-19	0	65	5	3	10	-21	6
28 FEB	-159	-85	-343	-298	-192	-41	1	-159
7 MAR	4	19	-27	-13	-31	-26	-29	-15
14 MAR	-44	6	-126	-68	4	-52	-31	-44
21 MAR	-92	-221	-17	24	70	28	34	-25
28 MAR	13	-26	-42	-171	-47	-41	-4	-45
4 APR	-3	-73	-29	-164	-103	-86	19	-63
11 APR	31	-14	-3	-107	-74	-98	-55	-46
18 APR	-5	-65	-141	-93	-88	-151	-121	-95
25 APR	-182	-40	1	-12	39	21	-9	-26
2 MAY	-22	-18	0	-19	-2	-44	13	-13
9 MAY	-42	9	76	16	0	-10	2	7
16 MAY	12	0	-32	-56	-83	-45	25	-26
23 MAY	17	-5	14	7	4	-12	-98	-11
30 MAY	-41	-24	-20	5	-8	6	60	-3
6 JUN	65	43	-30	-43	8	24	12	11
13 JUN	-6	-9	30	85	93	102	126	60
20 JUN	93	16	-2	3	19	49	52	33
27 JUN	42	35	8	29	53	69	29	38
4 JUL	87	105	100	84	101	88	77	92
11 JUL	87	44	44	36	29	17	20	39
18 JUL	41	30	16	-18	-6	65	102	33
25 JUL	84	37	20	10	-9	-10	46	25
1 AUG	121	87	37	8	13	55	45	52
8 AUG	9	7	42	62	63	47	19	35
15 AUG	41	12	29	61	93	43	0	40
22 AUG	-35	51	57	67	62	75	101	54
29 AUG	78	42	9	9	4	10	21	24
5 SEP	29	24	9	11	17	32	76	28
12 SEP	47	35	24	21	46	37	41	36
19 SEP	53	34	65	64	36	19	45	45
26 SEP	-2	-3	19	47	21	13	3	14
3 OCT	8	25	12	8	-1	-3	-11	5
10 OCT	-21	-19	-19	-2	-2	11	17	-5
17 OCT	11	3	13	-5	-35	-47	-44	-15
24 OCT	18	37	-18	-3	16	0	3	8
31 OCT	46	15	-20	31	11	14	37	19
7 NOV	32	8	-39	29	53	85	65	33
14 NOV	0	-7	-4	10	8	2	-28	-3
21 NOV	0	33	3	-57	-209	-308	-227	-109
28 NOV	-218	-36	-177	-82	-126	-157	59	-105
5 DEC	-55	-212	-129	-204	-658	-128	21	-195
12 DEC	-446	-260	-1	-1	-58	-3	9	-109
19 DEC	15	20	16	15	-38	-127	-66	-24
26 DEC	-29	-103	-139	-293	-103	-292	-67	-146



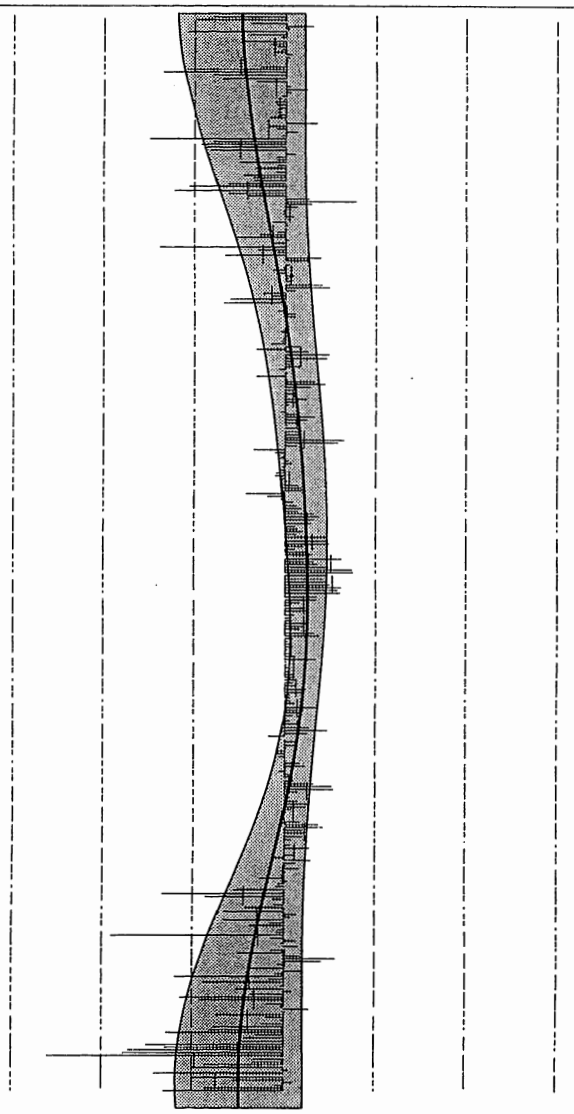
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-157	-197	-75	62	8	-213	-77	-93
9 JAN	-10	-92	-32	-17	-8	-28	14	-25
16 JAN	7	4	-3	-54	-216	-268	-158	-98
23 JAN	-136	-64	1	10	49	11	-8	-20
30 JAN	-4	-22	-18	-9	-1	-9	-33	-14
6 FEB	-1	72	-37	-17	26	-6	-296	-37
13 FEB	-156	-183	-171	-161	22	-18	-18	-98
20 FEB	-100	-16	-66	-17	-90	-70	-68	-61
27 FEB	-122	-210	-242	-125	-83	54	157	-82
6 MAR	60	27	-6	-5	18	-2	-28	9
13 MAR	5	-3	-14	-55	-109	8	-25	-28
20 MAR	-277	-60	-16	-132	80	50	9	-49
27 MAR	-5	-27	-12	19	8	14	83	11
3 APR	98	20	-45	-29	-120	-135	3	-30
10 APR	-2	-16	23	23	3	5	2	5
17 APR	-2	-7	0	-3	-6	-29	34	-2
24 APR	-61	52	97	93	15	16	34	35
1 MAY	-10	4	-63	4	66	90	57	21
8 MAY	21	26	3	46	22	7	-1	18
15 MAY	-7	25	66	47	31	4	24	27
22 MAY	39	30	35	131	119	26	-68	44
29 MAY	-22	-3	-8	8	18	-3	-8	-3
5 JUN	-18	-22	-4	3	30	38	37	9
12 JUN	-85	-37	-7	19	26	37	29	-2
19 JUN	64	78	64	59	22	30	40	51
26 JUN	25	91	95	100	44	25	54	62
3 JUL	63	127	66	73	98	150	150	104
10 JUL	95	89	96	102	127	118	125	107
17 JUL	70	72	32	13	46	49	21	43
24 JUL	9	17	55	39	31	64	76	42
31 JUL	18	6	18	18	7	17	23	15
7 AUG	70	3	3	8	14	18	22	20
14 AUG	27	17	28	47	37	14	12	26
21 AUG	14	20	70	46	32	18	8	30
28 AUG	12	31	53	97	52	-34	1	30
4 SEP	30	23	4	-17	-16	-10	2	2
11 SEP	34	47	4	-9	9	12	21	17
18 SEP	65	107	110	31	1	13	30	51
25 SEP	58	50	14	3	-2	-3	34	22
2 OCT	78	88	41	47	41	16	1	44
9 OCT	13	56	3	22	-21	59	25	22
16 OCT	7	36	6	-6	-51	10	-10	-1
23 OCT	-17	-109	-268	-172	-24	3	-19	-87
30 OCT	-85	-130	28	19	-130	-26	-74	-57
6 NOV	-10	-12	-379	-25	25	-4	32	-53
13 NOV	-26	-99	39	115	85	-9	-75	4
20 NOV	42	-15	-238	-28	-177	-6	-101	-75
27 NOV	18	-71	-227	-182	-34	-5	58	-63
4 DEC	3	-146	-37	-4	-45	-151	-159	-77
11 DEC	-258	-60	-84	-87	-303	-261	-340	-199
18 DEC	-351	-520	-63	-65	-171	-197	11	-193
25 DEC	-285	-195	-107	22	-16	-171	-263	-145



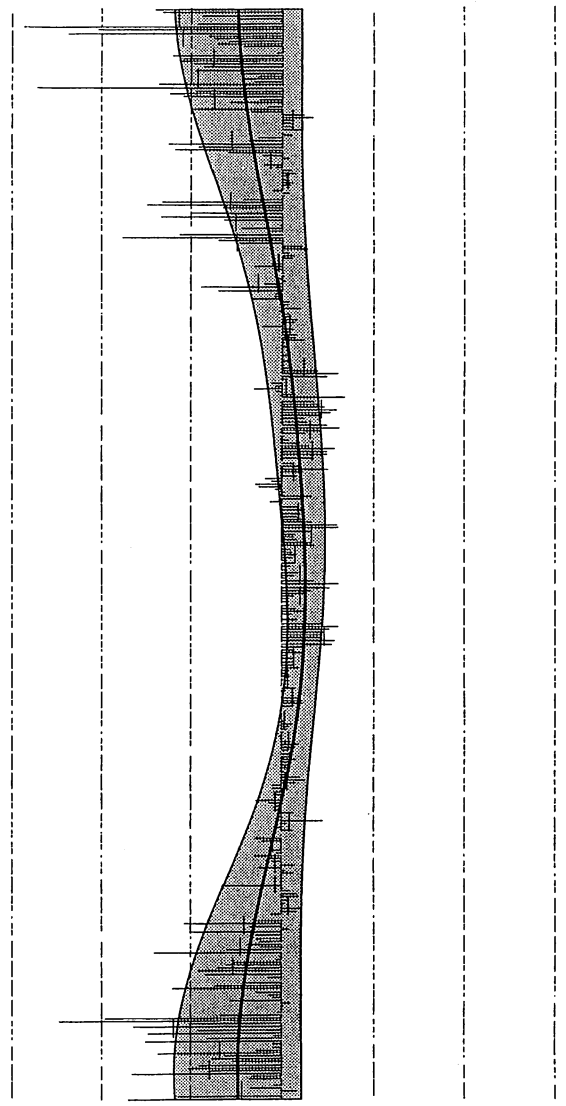
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 45N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-280	-263	-175	-98	-4	-184	-572	-225
8 JAN	-408	-473	-160	-150	-116	-143	-84	-219
15 JAN	-3	-9	-240	-215	-221	-192	-172	-150
22 JAN	-187	-89	-51	-82	-60	-272	-543	-183
29 JAN	-188	-246	-216	-46	-114	-30	-197	-148
5 FEB	-66	49	69	28	18	26	45	24
12 FEB	1	21	-49	-71	-250	-182	-234	-109
19 FEB	-117	-39	12	3	-38	-14	22	-25
26 FEB	30	16	16	23	17	3	-16	13
5 MAR	15	6	-82	-263	-295	-130	-37	-112
12 MAR	-195	-267	-127	1	-5	-87	-21	-100
19 MAR	-224	-350	-141	-92	42	56	14	-99
26 MAR	25	25	0	-23	-59	-16	5	-6
2 APR	4	-9	8	-38	-176	-139	-12	-52
9 APR	-17	-63	14	12	40	-4	15	0
16 APR	20	35	30	-42	25	19	32	17
23 APR	30	48	5	8	1	0	11	15
30 APR	2	17	5	24	78	124	98	50
7 MAY	12	-21	-14	-61	-10	26	138	10
14 MAY	70	83	94	121	107	85	48	87
21 MAY	55	100	126	87	51	7	15	63
28 MAY	35	60	114	98	99	71	1	68
4 JUN	27	37	103	47	32	-34	-21	27
11 JUN	-58	-48	-11	7	64	45	-23	-3
18 JUN	-3	38	44	39	32	53	67	39
25 JUN	122	123	65	30	27	33	66	66
2 JUL	70	18	23	31	25	11	28	29
9 JUL	17	7	35	27	8	71	124	41
16 JUL	103	62	56	28	12	15	16	42
23 JUL	29	48	20	1	34	91	124	50
30 JUL	104	93	86	89	114	110	53	93
6 AUG	24	47	10	23	25	25	36	27
13 AUG	16	12	18	4	2	-2	28	11
20 AUG	7	6	36	45	45	21	-2	23
27 AUG	2	-1	1	3	23	17	9	8
3 SEP	5	-4	-2	18	39	29	15	14
10 SEP	14	20	33	22	15	19	6	18
17 SEP	14	41	51	32	-19	-18	-16	12
24 SEP	-14	-3	-56	-26	-9	-10	27	-13
1 OCT	3	4	90	13	-7	25	2	18
8 OCT	-1	-56	-44	2	-2	-15	-9	-18
15 OCT	-57	-30	-21	29	-45	11	25	-13
22 OCT	-3	-1	-2	-130	8	17	32	-11
29 OCT	37	12	10	6	41	33	-22	17
5 NOV	2	-56	-211	-69	19	-201	-57	-82
12 NOV	-56	-46	-77	-46	-122	-278	-4	-90
19 NOV	-10	-108	-120	-140	-182	-167	-31	-108
26 NOV	-2	-80	-145	-241	-55	-28	-18	-81
3 DEC	-114	19	5	2	-11	-131	-390	-89
10 DEC	-493	-201	-328	-182	-293	-12	-162	-238
17 DEC	-300	-18	-17	-56	-271	-122	-152	-134
24 DEC	-107	-179	-204	-154	-329	-65	-70	-158
31 DEC	0	-14	-67	34	-2	-226	-338	-88



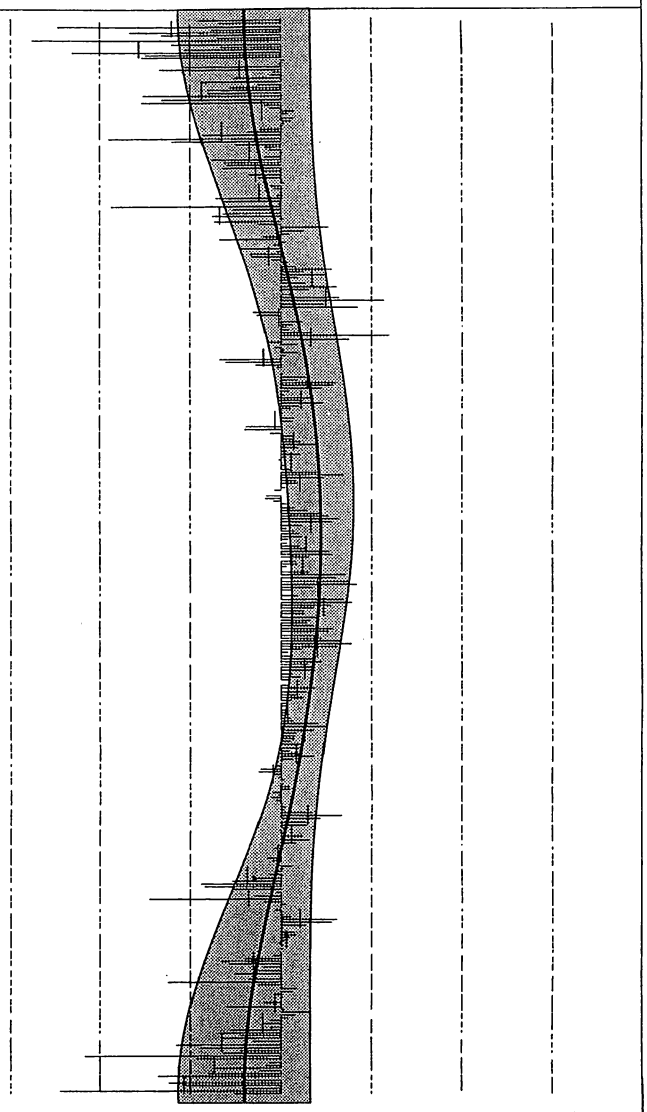
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE, CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1986 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-177	-136	-493	-153	-331	-264	-137	-242
12 JAN	-551	-239	-132	-211	-459	-298	-307	-314
19 JAN	6	-7	-211	-269	-18	-22	-102	-89
26 JAN	-170	-47	-110	-160	-159	-305	-262	-173
2 FEB	-308	-35	-25	28	17	27	21	-39
9 FEB	6	1	-42	-70	-172	-378	-241	-128
16 FEB	-96	-32	-25	-2	-36	-152	-125	-67
23 FEB	-118	-126	-35	-68	-47	5	8	-54
2 MAR	-22	-12	1	-11	-144	-126	-8	-46
9 MAR	-375	-105	-126	-153	6	-147	-45	-135
16 MAR	107	53	19	-36	-134	9	-17	0
23 MAR	-91	-7	-67	-62	-17	18	33	-28
30 MAR	111	52	99	38	19	55	124	71
6 APR	62	3	23	128	229	96	171	102
13 APR	1	-60	-52	2	47	27	12	-3
20 APR	18	72	240	153	-27	38	-13	69
27 APR	11	38	10	-134	-120	-55	-7	-37
4 MAY	1	4	55	37	120	116	91	60
11 MAY	20	8	74	52	94	40	24	45
18 MAY	5	6	29	26	1	-75	-79	-13
25 MAY	-25	26	27	46	81	38	13	29
1 JUN	42	9	-5	5	9	21	90	24
8 JUN	139	96	35	37	11	-13	0	44
15 JUN	-31	-34	-14	12	33	60	89	16
22 JUN	107	127	111	47	11	31	40	68
29 JUN	47	15	13	43	55	107	112	56
6 JUL	61	32	35	12	2	62	143	50
13 JUL	122	148	168	70	28	2	37	82
20 JUL	138	158	111	74	52	55	78	95
27 JUL	68	60	73	115	108	85	90	85
3 AUG	131	158	127	46	14	26	70	82
10 AUG	91	59	70	76	26	44	20	55
17 AUG	0	19	78	58	36	53	23	38
24 AUG	12	14	11	14	12	21	29	16
31 AUG	83	100	75	34	31	30	22	54
7 SEP	44	41	19	45	75	26	2	36
14 SEP	-12	-45	-49	-17	-5	7	4	-17
21 SEP	21	21	-17	-6	-21	-9	2	-1
28 SEP	9	6	71	134	86	55	56	60
5 OCT	17	-1	8	45	63	36	-7	23
12 OCT	-13	-6	-8	-29	-20	2	23	-7
19 OCT	8	-7	-23	-55	-106	-175	-167	-75
26 OCT	-104	-10	-57	-291	-37	10	-1	-70
2 NOV	-9	1	20	124	112	57	3	44
9 NOV	30	32	22	6	-6	4	5	13
16 NOV	-1	-17	-78	-130	-114	-37	-48	-60
23 NOV	-102	-1	-71	-248	-48	35	25	-58
30 NOV	-11	5	3	-37	-118	9	65	-12
7 DEC	31	14	-23	-40	-25	-109	-131	-40
14 DEC	-87	-131	-61	-229	-177	-89	-126	-128
21 DEC	-433	-189	-25	-32	-143	-46	-158	-146
28 DEC	-271	-80	-246	-214	-84	-487	-101	-212



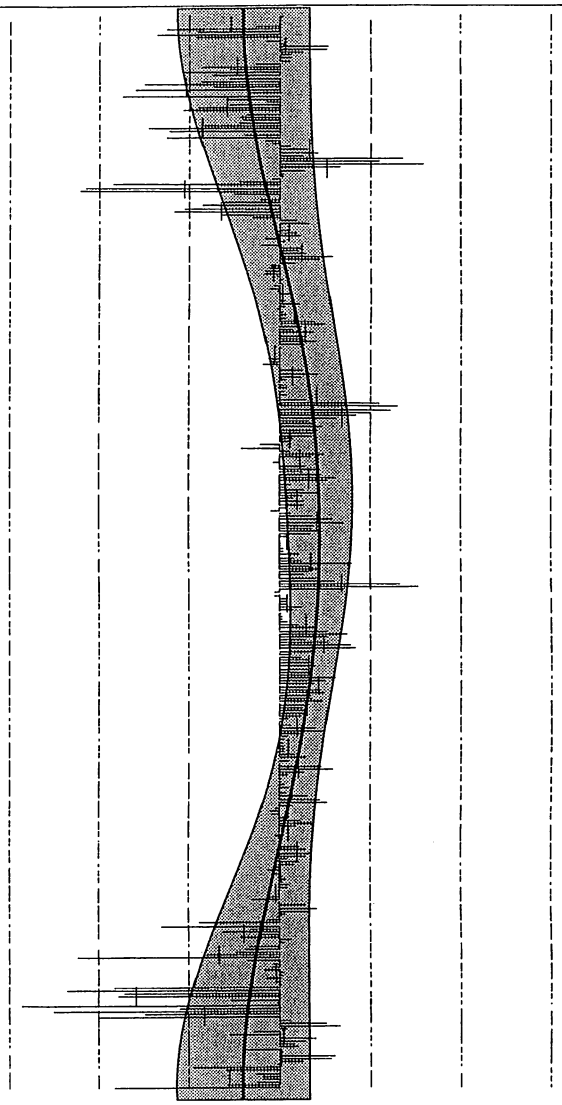
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	7	1	-2	-51	-247	-180	-271	-106
11 JAN	-185	-27	12	107	105	52	25	13
18 JAN	27	20	-53	-170	-109	-214	-147	-92
25 JAN	-110	-170	-300	-147	-318	-69	-345	-208
1 FEB	-118	-26	-110	-178	-213	-71	-88	-115
8 FEB	-80	-86	-165	-291	-243	-77	-249	-170
15 FEB	-28	-15	23	61	84	53	270	64
22 FEB	221	319	132	54	9	11	-14	105
1 MAR	-87	-368	-430	-444	-98	-1	-41	-210
8 MAR	-128	-172	-211	-233	-130	-61	38	-128
15 MAR	63	1	24	39	45	-28	12	22
22 MAR	-38	49	44	56	114	87	34	49
29 MAR	-22	-22	-30	-33	-3	8	5	-14
5 APR	-9	-21	-3	21	-1	11	42	6
12 APR	13	-4	6	13	14	76	100	31
19 APR	48	30	72	60	53	80	55	57
26 APR	3	-1	-1	2	-23	-22	-35	-11
3 MAY	-2	50	84	46	12	-1	8	28
10 MAY	16	9	15	0	56	220	261	82
17 MAY	245	202	167	123	67	75	93	139
24 MAY	84	75	72	33	21	-42	-81	23
31 MAY	22	96	72	0	-13	56	90	46
7 JUN	53	92	123	103	25	15	55	66
14 JUN	85	51	32	56	53	17	-18	39
21 JUN	28	73	116	140	78	72	87	85
28 JUN	69	20	2	5	5	9	10	17
5 JUL	44	33	48	159	65	86	66	71
12 JUL	55	86	122	266	306	140	-10	138
19 JUL	-10	15	14	15	49	31	6	17
26 JUL	6	8	19	43	86	103	150	59
2 AUG	105	56	108	156	168	70	25	98
9 AUG	48	62	70	80	63	66	69	65
16 AUG	122	100	77	59	91	101	70	88
23 AUG	74	96	61	52	60	57	46	64
30 AUG	20	6	27	80	95	42	17	41
6 SEP	10	9	11	10	11	34	57	20
13 SEP	20	2	93	118	53	17	4	44
20 SEP	3	14	21	2	15	62	91	30
27 SEP	104	30	-6	-19	-15	13	45	22
4 OCT	70	39			2	2	-7	21
11 OCT	4	43	57	67	60	18	43	42
18 OCT	35	-11	-23	-8	8	15	9	3
25 OCT	22	19	-1	0	-22	-61	0	-6
1 NOV	60	82	62	13	-5	-25	-177	1
8 NOV	-261	-64	-124	-43	-82	26	13	-76
15 NOV	-66	-73	-94	-159	-447	-68	-14	-131
22 NOV	-15	-36	11	7	-26	-3	5	-8
29 NOV	-363	-471	-340	-354	-106	-5	-571	-315
6 DEC	-219	-499	-295	-399	23	101	132	-165
13 DEC	17	-54	-108	78	58	35	40	9
20 DEC	-80	8	120	112	51	-4	-187	3
27 DEC	-116	-49	-38	-37	-49	-112	-362	-109

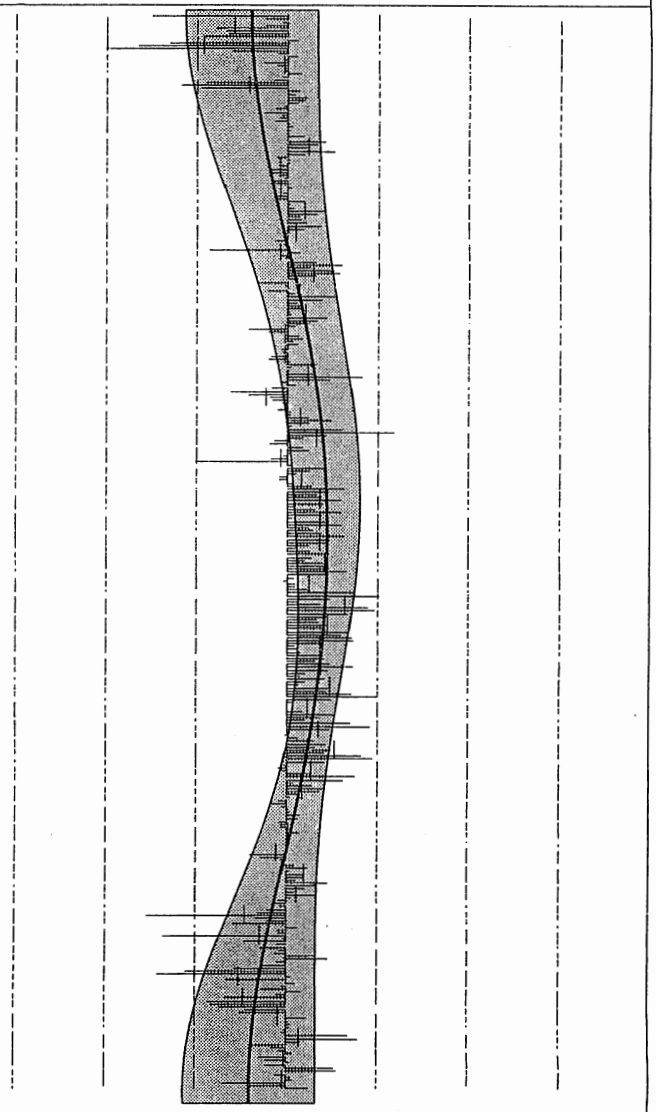


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-300	-48	-11	-48	-154	-134	-131	-118
10 JAN	-186	21	-260	-329	-401	-124	-20	-185
17 JAN	20	-6	-52	-22	-6	-8	31	-6
24 JAN	-11	-29	-177	-235	-190	23	16	-86
31 JAN	42	38	21	-8	-25	-51	-12	1
7 FEB	-15	-27	4	11	0	-3	34	1
14 FEB	1	85	66	44	105	37	-20	45
21 FEB	3	5	-20	-34	-39	-13	-6	-15
28 FEB	-31	-26	7	1	-9	-22	-23	-15
6 MAR	36	4	12	86	65	26	29	37
13 MAR	42	74	34	3	1	-8	-28	17
20 MAR	-6	-2	-171	27	-13	-4	63	-15
27 MAR	121	50	103	114	64	24	-68	58
3 APR	-4	6	-42	14	111	78	21	26
10 APR	33	29	4	10	89	64	48	39
17 APR	15	-85	-41	22	32	13	23	-3
24 APR	1	-12	-7	-36	-40	7	66	-3
1 MAY	8	4	54	165	92	-11	17	47
8 MAY	-33	-127	-84	-38	-33	-9	-1	-46
15 MAY	-21	6	8	47	101	48	10	29
22 MAY	123	239	88	34	-27	-37	35	65
29 MAY	50	6	-7	-36	-201	11	80	-14
5 JUN	48	21	-15	-16	14	56	125	33
12 JUN	92	66	76	120	82	16	63	73
19 JUN	121	75	18	85	120	47	57	75
26 JUN	77	127	95	93	52	24	51	74
3 JUL	95	54	41	80	88	96	132	84
10 JUL	94	17	-7	19	18	43	147	47
17 JUL	203	96	26	75	179	194	136	130
24 JUL	80	66	70	89	75	135	123	91
31 JUL	144	147	76	17	20	30	78	73
7 AUG	82	62	96	145	89	40	31	78
14 AUG	85	40	27	90	88	144	202	97
21 AUG	99	12	3	2	36	105	74	47
28 AUG	41	142	185	96	6	-4	25	70
4 SEP	59	87	63	99	83	165	190	106
11 SEP	85	-5	-19	-8	55	153	125	55
18 SEP	16	57	79	73	28	6	-15	35
25 SEP	-30	-9	3	7	31	25	-13	2
2 OCT	-11	-10	6	29	8	6	3	4
9 OCT	0	2	2	-78	-57	-11	0	-20
16 OCT	20	49	8	44	40	22	92	39
23 OCT	69	44	18	66	11	-14	-25	24
30 OCT	-9	-40	-60	-308	-64	-39	-116	-91
6 NOV	28	-17	-16	-270	-8	-91	-19	-56
13 NOV	-57	-12	-22	64	93	-18	-54	-1
20 NOV	-113	-221	-284	9	-129	20	-7	-104
27 NOV	-55	32	-20	-133	-171	-167	-146	-94
4 DEC	-89	-98	3	46	6	9	11	-16
11 DEC	-5	-8	138	159	31	-82	-30	29
18 DEC	-12	16	-58	-44	10	-43	107	-4
25 DEC	112	-22	14	14	-139	-76	51	-7



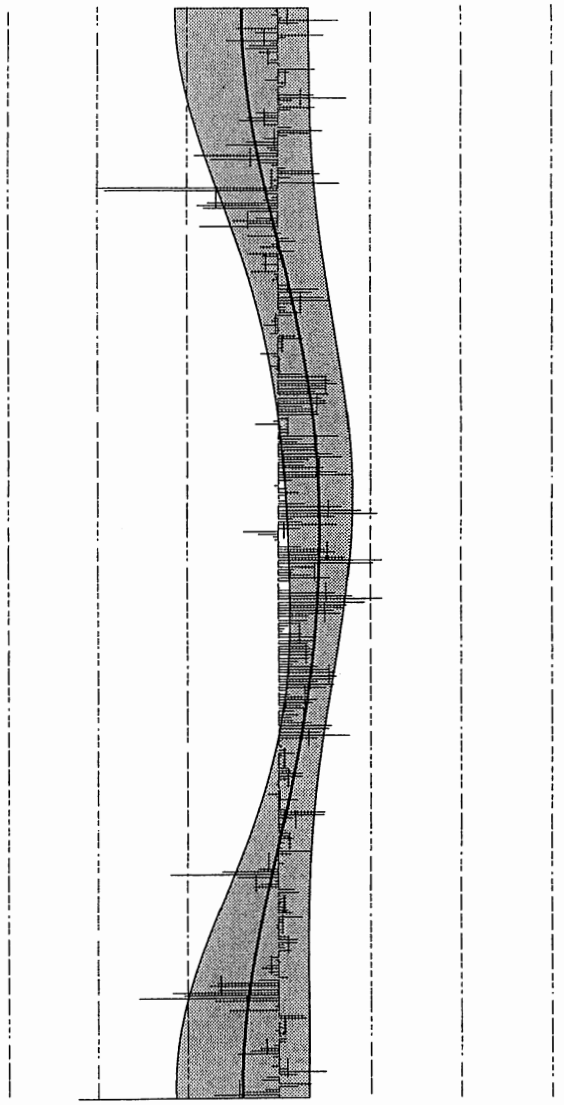
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-11	-6	-14	6	132	42	-4	21
8 JAN	-89	-49	99	17	-113	-14	-62	-30
15 JAN	-71	-40	-2	1	-15	-19	5	-20
22 JAN	80	24	5	-4	-26	15	9	14
29 JAN	-4	3	76	149	29	7	78	48
5 FEB	27	-45	-33	-65	-83	-28	29	-28
12 FEB	96	72	20	-26	-67	-113	-24	-6
19 FEB	-15	-49	-183	-147	-34	-13	17	-60
26 FEB	78	90	27	-9	134	-8	-402	-13
5 MAR	-381	-26	-12	-30	-155	-175	-162	-135
12 MAR	-59	-1	-47	-95	-64	-171	-13	-64
19 MAR	8	-66	24	37	-12	-38	34	-2
26 MAR	-66	-31	11	0	-35	3	-58	-25
2 APR	-8	-6	-10	-2	17	89	74	22
9 APR	6	97	112	36	16	16	52	48
16 APR	30	-8	-12	-29	-4	6	-15	-5
23 APR	37	53	8	-1	11	2	-38	10
30 APR	-9	6	0	-15	-8	7	52	5
7 MAY	104	112	129	104	100	78	111	105
14 MAY	92	103	104	51	68	82	89	84
21 MAY	18	-10	-47	9	22	24	128	20
28 MAY	53	39	87	81	82	118	140	86
4 JUN	67	54	57	98	127	154	86	92
11 JUN	30	4	-8	18	46	19	3	16
18 JUN	18	56	140	179	214	120	32	108
25 JUN	53	128	45	-76	-44	-11	-7	13
2 JUL	5	48	101	123	91	147	226	106
9 JUL	206	81	36	33	70	112	20	80
16 JUL	-1	4	27	123	159	226	187	103
23 JUL	150	138	121	135	64	63	47	102
30 JUL	21	11	11	53	83	83	62	46
6 AUG	66	81	69	73	65	39	31	60
13 AUG	85	109	125	127	112	85	122	109
20 AUG	105	12	24	50	81	75	52	57
27 AUG	53	33	43	25	33	70	115	53
3 SEP	109	90	154	83	7	3	6	64
10 SEP	15	34	10	-3	1	6	22	12
17 SEP	29	51	52	19	-1	-5	2	21
24 SEP	-2	-24	-5	41	1	-3	16	3
1 OCT	101	97	29	2	12	5	14	37
8 OCT	19	20	33	12	1	10	69	24
15 OCT	26	-3	-9	12	1	-42	-124	-20
22 OCT	-237	-89	-7	-38	-55	36	44	-49
29 OCT	3	8	15	4	14	21	30	14
5 NOV	51	6	9	-4	-3	3	-1	9
12 NOV	20	40	41	9	12	28	-1	21
19 NOV	-12	-7	5	-25	-34	-22	-10	-15
26 NOV	20	-42	-132	-151	-132	-232	-208	-125
3 DEC	-307	-137	-2	-6	-107	2	53	-72
10 DEC	59	1	6	7	-6	13	6	12
17 DEC	17	13	-9	-39	-59	-90	-13	-26
24 DEC	4	-2	-18	19	106	40	-27	17
31 DEC	-38	72	40	-28	-79	-139	-444	-88

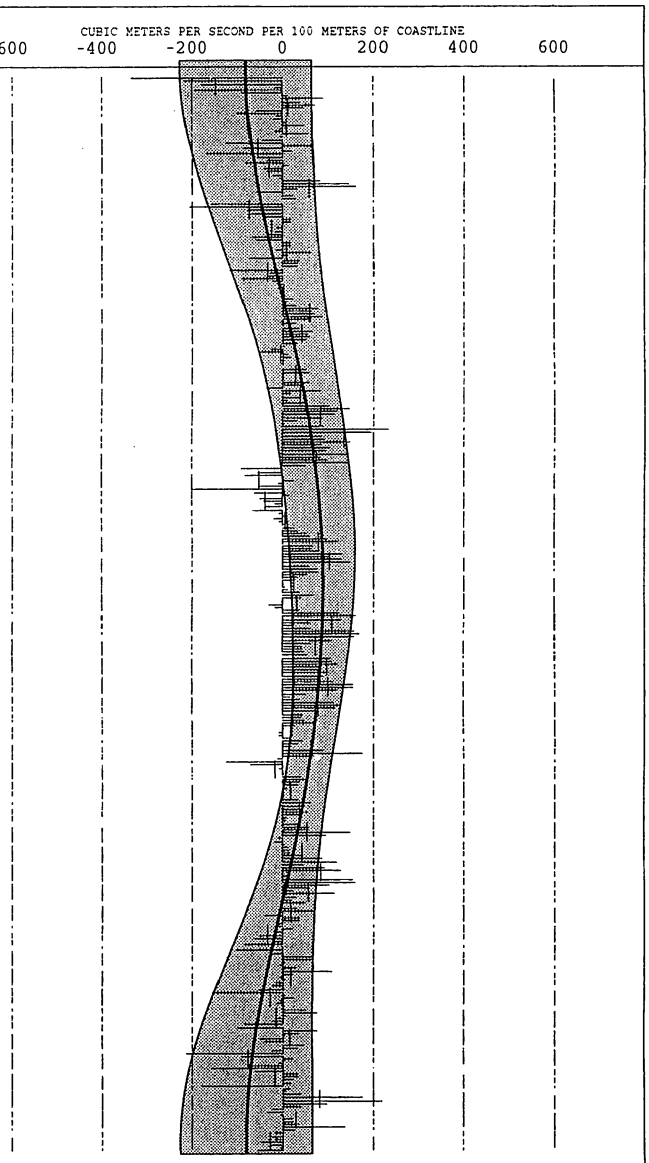


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1990 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-334	-219	-177	-17	-192	-89	11	-145
14 JAN	90	41	74	47	-57	-95	-11	13
21 JAN	-17	7	48	-3	-16	57	-5	10
28 JAN	-43	-124	65	-82	20	-167	-56	-55
4 FEB	-35	-79	13	-40	-31	-20	-8	-28
11 FEB	82	147	164	33	-57	24	30	60
18 FEB	3	-157	-205	-76	-68	-37	20	-74
25 FEB	18	0	-13	-16	-28	-66	-58	-23
4 MAR	19	18	-14	66	12	-74	39	9
11 MAR	36	31	-115	-27	-30	-91	-22	-31
18 MAR	-1	-9	2	0	7	22	10	5
25 MAR	30	79	65	71	89	63	31	61
1 APR	5	39	66	54	61	50	34	44
8 APR	3	-23	-45	12	18	2	1	-5
15 APR	1	50	57	0	0	60	44	30
22 APR	-36	82	18	42	12	49	105	39
29 APR	149	120	116	91	31	3	91	86
6 MAY	236	196	89	93	152	88	106	137
13 MAY	95	143	85	100	147	51	-91	76
20 MAY	-55	-81	3	25	-8	-51	-203	-53
27 MAY	-62	14	-48	-39	-16	-39	-66	-36
3 JUN	-7	8	-19	-7	5	27	36	6
10 JUN	55	59	98	124	65	65	81	78
17 JUN	133	102	128	152	56	76	80	104
24 JUN	53	36	28	4	6	12	37	25
1 JUL	69	41	-3	-30	-15	36	126	32
8 JUL	162	129	62	28	62	159	170	110
15 JUL	161	110	63	43	42	47	55	74
22 JUL	106	109	124	85	83	98	90	99
29 JUL	85	113	156	157	123	50	19	100
5 AUG	39	113	125	116	81	44	40	79
12 AUG	47	69	28	6	-7	-6	16	22
19 AUG	43	33	16	90	178	84	-10	62
26 AUG	-125	-70	-6	1	4	40	49	-15
2 SEP	38	34	10	-2	3	5	35	18
9 SEP	64	49	31	54	40	9	7	36
16 SEP	34	56	56	152	97	-8	-15	53
23 SEP	7	12	12	16	45	87	122	43
30 SEP	47	93	129	2	6	155	160	85
7 OCT	104	59	24	117	28	22	51	58
14 OCT	-3	33	71	-39	37	38	-6	19
21 OCT	-17	20	-17	-47	-60	-15	-82	-31
28 OCT	1	-104	-19	69	62	4	-5	1
4 NOV	28	109	22	-7	3	-13	-23	17
11 NOV	-52	-154	3	23	-6	-10	5	-27
18 NOV	50	77	6	-15	-20	-83	-100	-12
25 NOV	75	35	6	-48	-41	45	31	15
2 DEC	-20	-213	-92	21	-7	-72	-158	-77
9 DEC	-60	34	32	23	18	-176	19	-16
16 DEC	10	41	177	221	97	43	-21	81
23 DEC	-31	-4	20	23	37	138	27	30
30 DEC	-16	-20	-14	-45	-23	-8	-54	-26



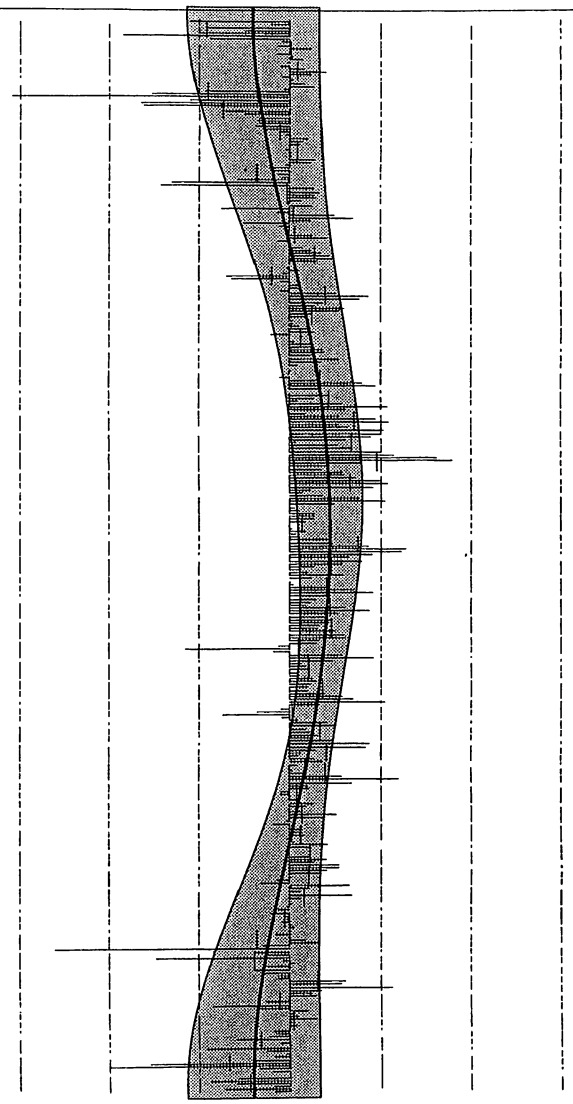
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-217	-42	-179	-97	-197	-369	-174	-182
13 JAN	-18	-23	47	5	-28	11	30	3
20 JAN	-4	-22	32	79	47	-14	9	18
27 JAN	32	53	-12	-185	-303	-619	-219	-179
3 FEB	-329	-325	3	-141	-95	-66	-70	-146
10 FEB	-66	-75	-49	-18	-8	41	28	-21
17 FEB	24	1	-8	4	5	56	49	19
24 FEB	-6	-42	-34	-25	-14	-112	-261	-70
3 MAR	-284	54	64	54	60	26	-8	-5
10 MAR	49	-148	-23	99	139	47	-98	9
17 MAR	-20	-4	-2	48	81	-24	7	12
24 MAR	31	48	71	87	99	62	1	57
31 MAR	-4	25	-12	-136	-127	-19	20	-36
7 APR	19	-19	104	175	153	74	57	80
14 APR	121	110	53	36	10	10	24	52
21 APR	46	57	-42	0	12	55	58	26
28 APR	72	76	47	106	70	18	2	56
5 MAY	4	-1	-22	69	159	189	71	67
12 MAY	1	85	58	17	114	215	126	88
19 MAY	34	111	191	219	111	129	208	143
26 MAY	202	179	122	15	106	137	201	137
2 JUN	230	326	360	161	89	70	116	193
9 JUN	121	145	198	215	185	46	30	134
16 JUN	74	155	210	98	13	22	58	90
23 JUN	56	55	37	-1	7	36	14	29
30 JUN	23	91	96	174	258	245	183	153
7 JUL	132	161	115	55	27	44	118	93
14 JUL	48	3	10	88	143	184	89	81
21 JUL	59	47	36	123	176	106	80	89
28 JUL	89	87	64	62	103	121	123	93
4 AUG	66	60	-24	-229	-36	118	186	20
11 AUG	95	30	38	43	18	22	48	42
18 AUG	59	45	41	40	79	118	141	75
25 AUG	209	65	-19	-70	-147	-15	18	6
1 SEP	83	103	38	42	64	53	95	68
8 SEP	178	169	57	27	20	54	73	82
15 SEP	17	-1	7	30	117	241	137	78
22 SEP	40	44	-16	-21	4	19	54	18
29 SEP	38	0	29	103	78	-4	-34	30
6 OCT	6	30	31	31	-5	13	84	27
13 OCT	46	-7	-3	43	82	55	111	47
20 OCT	109	83	66	8	-27	-63	132	44
27 OCT	44	23	139	25	2	6	-6	33
3 NOV	-23	-39	-8	-4	-16	6	12	-10
10 NOV	0	-30	-1	35	67	-57	-520	-72
17 NOV	-76	-48	-293	-13	13	-47	-77	-77
24 NOV	-52	-24	-24	123	115	227	71	62
1 DEC	45	57	-2	-51	-169	-62	39	-20
8 DEC	7	18	61	5	15	-2	-35	10
15 DEC	-30	-44	-117	-19	3	-185	-47	-63
22 DEC	-6	-35	-76	-306	-400	-67	-38	-132
29 DEC	0	-112	-176	-119	-36	-140	-33	-88



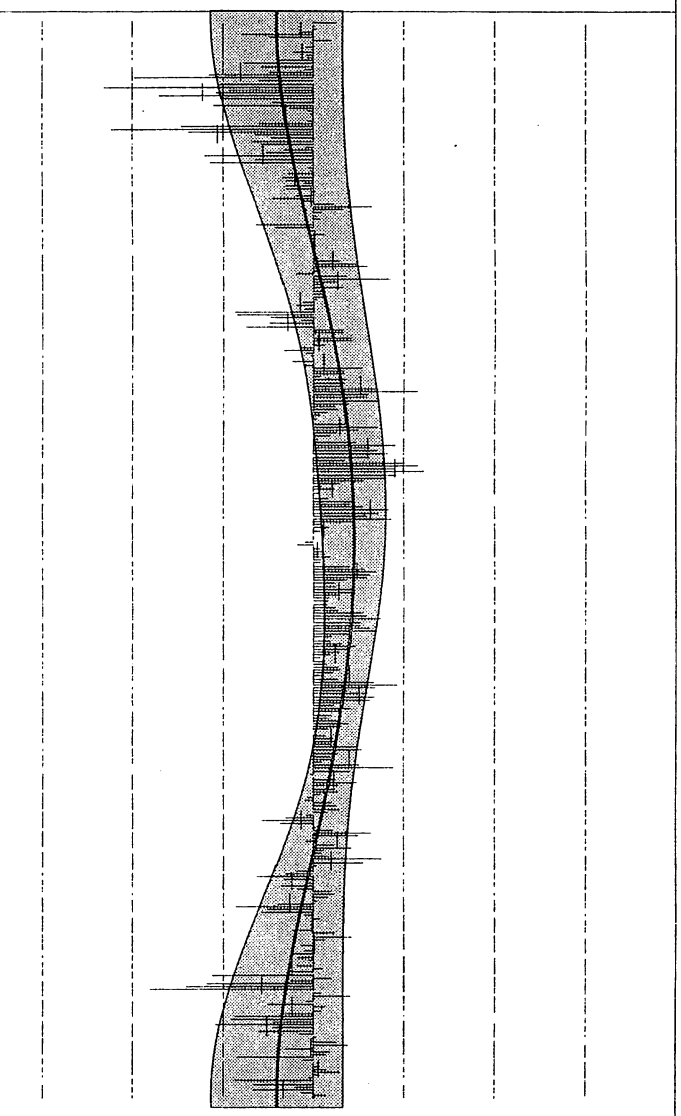
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	51	5	9	-31	-158	-94	39	-25
12 JAN	-4	-14	-5	-40	-13	-12	-76	-23
19 JAN	-150	-111	-17	-93	-230	-393	-117	-159
26 JAN	-204	-462	-186	-214	-341	-205	-87	-243
2 FEB	-219	-51	-9	-5	-2	-11	-117	-59
9 FEB	-290	-445	-274	-127	-91	-134	-114	-211
16 FEB	-16	-62	-102	-238	-128	-226	-4	-111
23 FEB	-11	-4	-56	-66	-60	-20	-59	-39
1 MAR	-59	4	-37	-91	-21	45	130	-4
8 MAR	67	19	9	15	-1	-127	-83	-15
15 MAR	-6	25	2	-8	3	8	1	3
22 MAR	-1	-1	10	57	97	118	16	42
29 MAR	-37	73	170	58	21	67	28	54
5 APR	18	28	7	-24	-37	-20	-173	-29
12 APR	-168	-94	-27	-97	-149	69	68	-57
19 APR	-1	83	88	24	-31	-65	-16	12
26 APR	-5	-1	-46	-20	107	69	69	25
3 MAY	17	74	72	62	144	231	122	103
10 MAY	119	146	79	49	55	31	19	71
17 MAY	7	0	77	143	98	53	36	59
24 MAY	13	92	183	126	141	166	123	121
31 MAY	70	204	231	181	246	185	161	183
7 JUN	113	59	20	49	16	2	35	42
14 JUN	84	81	111	167	144	118	172	125
21 JUN	91	18	35	16	1	0	-1	23
28 JUN	-19	-36	14	21	26	38	19	9
5 JUL	16	79	114	137	124	118	74	95
12 JUL	45	52	87	91	60	35	31	57
19 JUL	29	48	58	111	116	148	103	87
26 JUL	106	124	140	79	41	38	65	85
2 AUG	92	73	58	36	15	28	30	47
9 AUG	56	59	42	24	54	134	188	79
16 AUG	138	75	121	135	126	69	45	101
23 AUG	83	61	40	36	50	77	62	58
30 AUG	31	7	28	42	53	37	93	42
6 SEP	107	55	36	48	18	101	180	78
13 SEP	79	-8	1	51	97	57	48	46
20 SEP	53	16	-13	-19	40	52	61	27
27 SEP	31	-15	-63	-114	-73	6	43	-27
4 OCT	130	98	9	-14	47	84	24	54
11 OCT	18	35	151	110	7	-6	-35	40
18 OCT	-59	-125	-63	-16	-71	-36	40	-47
25 OCT	45	35	10	-76	-170	-99	-112	-53
1 NOV	-18	16	-1	-5	2	-44	49	0
8 NOV	84	31	1	-27	-3	-17	-42	4
15 NOV	-34	-10	5	-35	22	-49	-223	-46
22 NOV	41	-46	-235	-280	-362	18	82	-112
29 NOV	5	-16	-100	28	18	-74	-174	-45
6 DEC	-182	-87	-216	-89	-121	-30	8	-102
13 DEC	2	52	77	-61	37	31	-169	-5
20 DEC	-20	3	14	30	58	12	-10	12
27 DEC	-172	-129	-39	-132	-24	31	4	-66



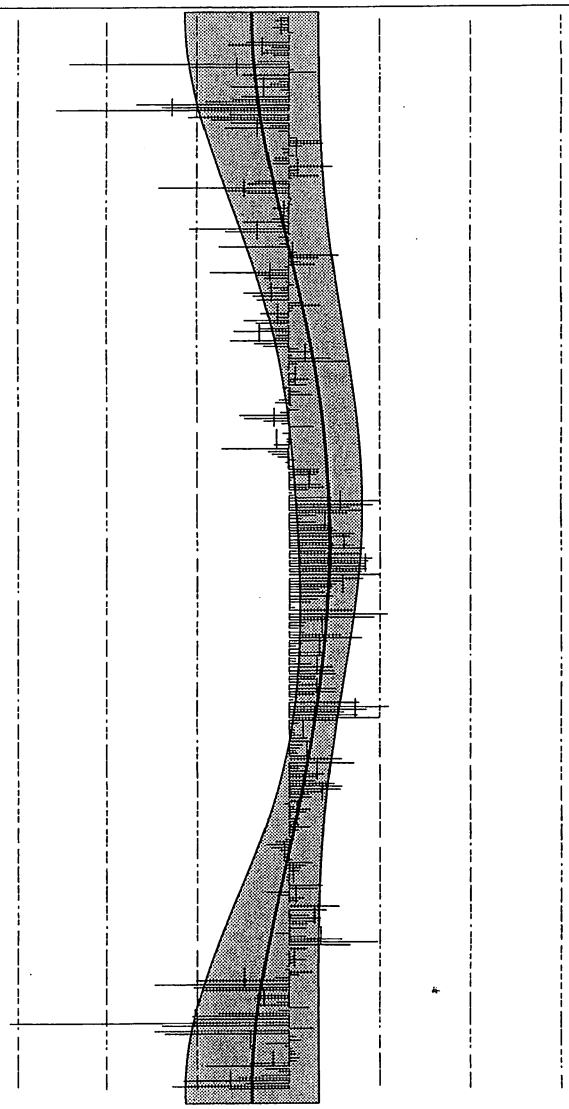
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-19	-29	-17	-36	-21	10	3	-15
10 JAN	4	-89	-130	-38	-48	-58	-31	-56
17 JAN	-3	-67	-483	-215	14	60	-101	-113
24 JAN	-77	-22	-39	-122	-15	-4	-101	-54
31 JAN	-121	-183	-333	-278	-513	-127	-219	-253
7 FEB	-168	-123	-41	-138	-21	-2	18	-68
14 FEB	71	77	28	-14	-11	13	-32	19
21 FEB	-31	-34	95	23	13	68	7	20
28 FEB	-72	-88	-286	-138	-90	1	8	-95
7 MAR	5	6	-33	-5	-1	-10	-36	-11
14 MAR	-96	-21	-216	-138	5	-20	3	-69
21 MAR	-18	-151	8	17	109	68	27	9
28 MAR	57	-6	-38	-171	-71	-51	-4	-41
4 APR	11	-44	-17	-95	-77	-67	34	-36
11 APR	68	10	7	-60	-25	-96	-71	-24
18 APR	-1	-63	-119	-27	-29	-128	-72	-63
25 APR	-53	20	50	8	92	125	22	38
2 MAY	-2	-2	18	0	46	13	41	16
9 MAY	-12	24	51	7	-21	-29	8	4
16 MAY	21	-17	-107	-96	-54	-15	53	-31
23 MAY	6	-12	3	-5	-5	-31	-147	-27
30 MAY	-46	-37	-23	17	-7	12	66	-3
6 JUN	67	59	9	6	70	77	42	47
13 JUN	6	12	92	200	186	131	164	113
20 JUN	127	60	26	60	90	96	104	80
27 JUN	144	133	91	97	144	166	79	122
4 JUL	161	183	174	169	166	170	159	169
11 JUL	199	163	117	103	93	66	80	117
18 JUL	95	62	49	4	13	138	218	83
25 JUL	187	86	39	36	21	34	116	74
1 AUG	159	84	32	16	25	76	77	67
8 AUG	16	16	49	96	100	100	57	62
15 AUG	56	27	73	102	103	58	19	63
22 AUG	9	156	222	170	122	152	201	147
29 AUG	105	21	4	13	12	25	42	32
5 SEP	46	31	23	17	17	39	114	41
12 SEP	143	42	21	46	76	59	58	63
19 SEP	99	115	112	74	44	49	30	75
26 SEP	-10	9	47	38	3	25	15	18
3 OCT	20	46	21	10	10	-7	-28	10
10 OCT	-49	-39	-19	-8	-9	7	52	-9
17 OCT	37	27	21	-4	-3	-8	-2	10
24 OCT	73	62	-48	-27	31	22	1	16
31 OCT	109	82	-1	46	71	54	40	57
7 NOV	36	5	-29	39	115	197	135	71
14 NOV	41	1	-5	9	38	9	-4	12
21 NOV	-6	54	21	-30	-200	-293	-207	-95
28 NOV	-188	-2	-71	-73	-26	-68	46	-55
5 DEC	-22	-153	-210	-203	-619	-277	53	-204
12 DEC	-293	-272	16	26	-48	-9	7	-82
19 DEC	13	14	24	18	-82	-178	-52	-35
26 DEC	-21	-60	-106	-230	-94	-254	-129	-127

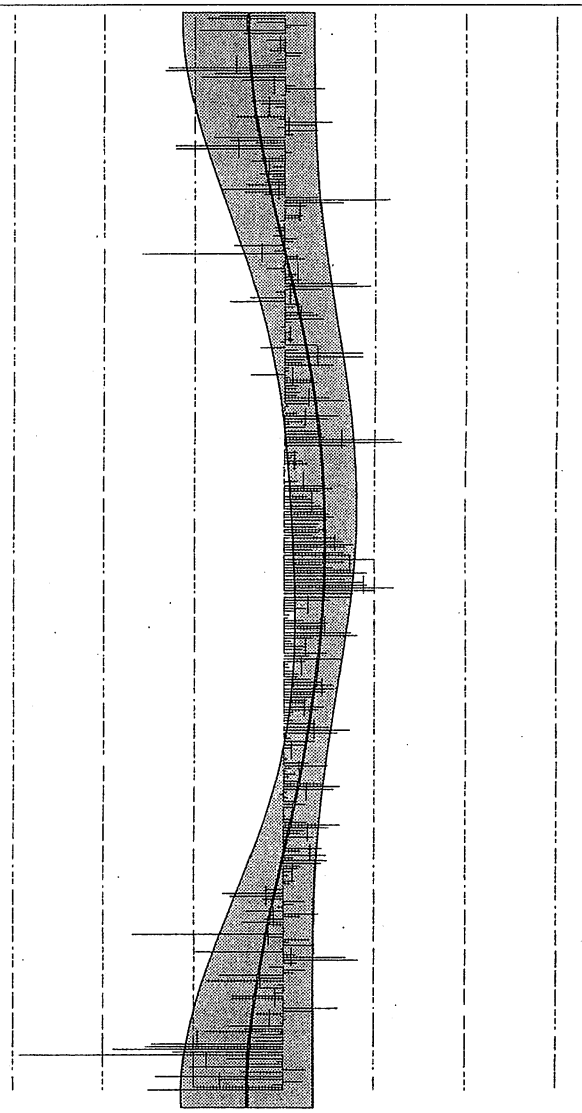


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1994 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-143	-174	-60	48	12	-191	-90	-85
9 JAN	2	-40	-4	-6	-15	-35	37	-9
16 JAN	32	-17	-23	-76	-256	-262	-155	-108
23 JAN	-185	-93	1	22	88	12	-8	-23
30 JAN	-1	-75	-51	-17	1	-2	-103	-35
6 FEB	-12	104	65	-14	75	18	-158	11
13 FEB	-119	-62	-239	-240	15	-11	-51	-101
20 FEB	-71	-2	-24	-29	-54	-25	-34	-34
27 FEB	-43	-86	-142	-88	-42	73	232	-14
6 MAR	131	45	5	4	42	31	-11	35
13 MAR	0	-22	-18	-2	-24	27	20	-3
20 MAR	-113	10	-20	-314	28	44	11	-51
27 MAR	-4	-41	-6	30	20	36	160	28
3 APR	189	83	-21	2	-75	-122	36	13
10 APR	25	0	63	75	86	12	-2	37
17 APR	-8	-2	10	1	20	-10	70	12
24 APR	-54	30	173	173	44	39	107	73
1 MAY	10	10	-75	9	62	71	30	17
8 MAY	25	35	27	98	129	54	10	54
15 MAY	-7	27	118	93	40	11	45	47
22 MAY	76	81	87	242	261	134	4	126
29 MAY	29	27	15	41	49	-1	4	23
5 JUN	0	-2	3	29	90	108	79	44
12 JUN	1	55	62	68	81	92	85	63
19 JUN	102	109	93	77	70	94	78	89
26 JUN	64	113	129	154	137	64	133	113
3 JUL	148	200	134	83	108	155	186	145
10 JUL	151	134	174	186	242	199	154	177
17 JUL	146	103	28	25	48	28	12	56
24 JUL	10	43	95	86	87	149	163	90
31 JUL	66	16	20	45	41	96	58	49
7 AUG	127	46	11	12	20	32	33	40
14 AUG	59	86	110	110	91	66	65	84
21 AUG	53	50	87	77	20	16	11	45
28 AUG	22	71	99	145	119	7	16	68
4 SEP	67	45	16	-5	-4	1	11	19
11 SEP	54	95	18	6	28	12	28	35
18 SEP	86	124	110	9	-8	10	32	52
25 SEP	49	19	2	0	5	14	51	20
2 OCT	124	98	45	37	66	15	1	55
9 OCT	6	86	37	94	23	97	82	60
16 OCT	38	34	17	10	3	27	15	20
23 OCT	1	-37	-135	-119	-43	46	25	-37
30 OCT	-12	-79	76	38	-39	-92	-34	-20
6 NOV	0	5	-334	-33	59	14	62	-32
13 NOV	-5	-195	27	136	166	30	-30	18
20 NOV	48	23	-140	-49	-171	-10	-55	-51
27 NOV	4	-20	-113	-111	3	-2	122	-17
4 DEC	67	-60	-5	6	-5	-115	-84	-28
11 DEC	-173	-46	-73	-60	-291	-306	-377	-189
18 DEC	-242	-585	-123	-10	-75	-207	50	-170
25 DEC	-90	-282	-148	44	-21	-195	-298	-141



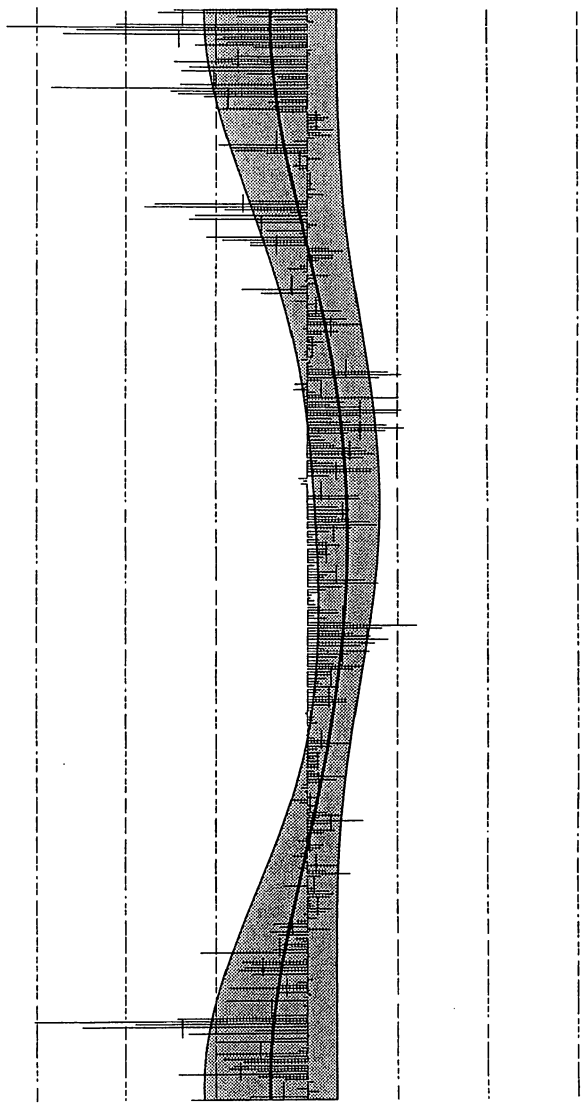
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 42N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-294	-326	-153	-69	16	-421	-665	-273
8 JAN	-509	-541	-186	-201	-172	-245	-115	-281
15 JAN	10	6	-157	-195	-294	-163	-260	-151
22 JAN	-275	-129	-61	-53	-66	-279	-568	-205
29 JAN	-300	-286	-228	-54	-82	-72	-190	-173
5 FEB	-61	28	48	38	16	28	56	22
12 FEB	32	53	16	-28	-194	-171	-156	-64
19 FEB	-88	-10	33	0	-30	-11	1	-15
26 FEB	3	2	8	12	5	17	-1	7
5 MAR	38	10	-123	-335	-358	-179	-36	-140
12 MAR	-246	-260	-104	21	10	-89	-17	-98
19 MAR	-222	-186	-124	-124	48	83	61	-66
26 MAR	60	28	0	-16	-39	-7	53	11
2 APR	17	-5	15	-13	-144	-98	3	-32
9 APR	4	-24	14	-1	77	36	32	20
16 APR	87	66	118	-8	72	34	16	55
23 APR	14	38	20	7	-4	-4	10	11
30 APR	-12	7	12	61	180	210	159	88
7 MAY	30	-27	-5	-28	18	30	205	32
14 MAY	81	50	114	211	202	116	56	118
21 MAY	97	176	216	173	90	30	41	118
28 MAY	52	67	118	128	149	125	24	95
4 JUN	58	85	143	144	49	-19	-8	64
11 JUN	-12	-3	0	4	113	115	0	31
18 JUN	14	68	94	90	65	92	138	80
25 JUN	156	98	50	23	13	27	45	59
2 JUL	71	47	47	51	34	16	28	42
9 JUL	15	20	64	43	37	126	158	66
16 JUL	78	39	26	11	7	14	17	27
23 JUL	28	65	67	14	43	95	243	79
30 JUL	166	70	103	141	179	149	117	132
6 AUG	38	138	91	69	45	61	123	81
13 AUG	101	51	55	39	25	34	71	54
20 AUG	29	22	58	86	88	51	13	50
27 AUG	3	-4	15	12	20	7	4	8
3 SEP	4	0	14	45	96	55	20	33
10 SEP	28	26	19	28	27	22	14	23
17 SEP	31	81	65	29	-7	-12	-3	26
24 SEP	1	21	-32	-15	17	6	43	6
1 OCT	72	26	124	51	8	64	39	55
8 OCT	10	-8	-20	37	32	13	-12	7
15 OCT	-32	-1	-4	65	-18	39	95	21
22 OCT	30	1	2	-47	13	47	58	15
29 OCT	50	8	9	13	53	41	-8	24
5 NOV	22	-25	-72	-57	47	-80	-62	-32
12 NOV	-24	-9	-54	-35	-73	-235	5	-61
19 NOV	-7	-144	-120	-134	-148	-118	2	-95
26 NOV	14	-20	-59	-169	-61	9	-7	-42
3 DEC	-176	2	-9	-2	2	-75	-285	-78
10 DEC	-606	-377	-495	-113	-260	4	-72	-274
17 DEC	-200	-3	-9	-18	-201	-89	-182	-100
24 DEC	-140	-159	-171	-107	-282	-106	-47	-144
31 DEC	12	-2	-23	25	5	-125	-255	-52



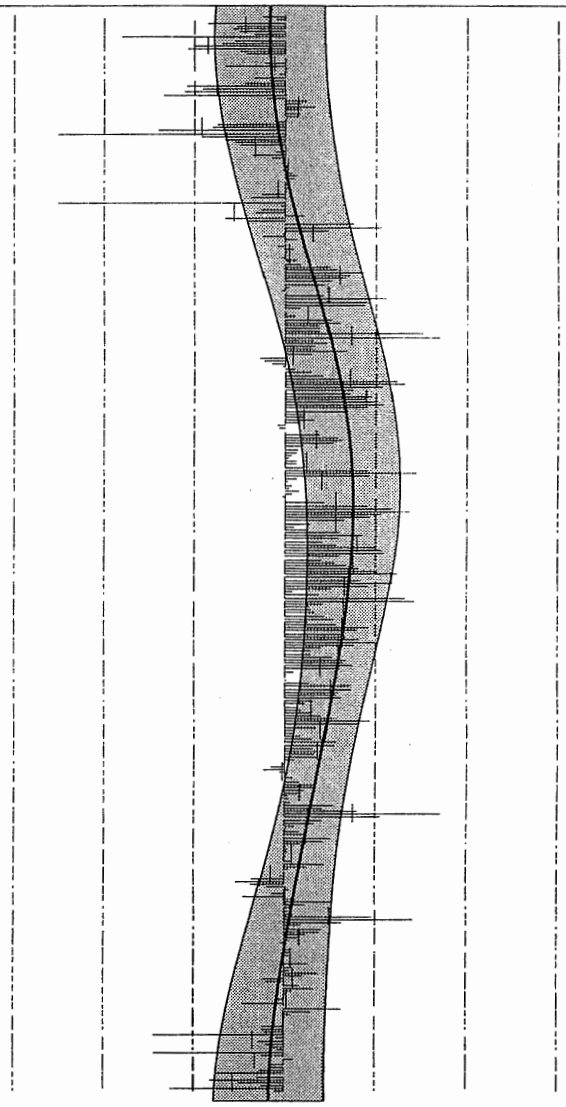
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1986 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	-46	-19	-171	-105	-116	-99	-68	-89
12 JAN	-359	-109	-138	-201	-212	-100	-84	-172
19 JAN	1	3	-43	-132	8	1	-12	-25
26 JAN	-64	-31	-89	-216	-181	-220	-269	-153
2 FEB	-41	50	36	66	37	33	33	30
9 FEB	5	-18	-148	-161	-279	-501	-184	-184
16 FEB	-133	-111	-98	-3	-21	-70	-29	-67
23 FEB	-3	-6	7	-4	15	25	22	8
2 MAR	1	4	3	5	-47	-73	5	-15
9 MAR	-501	-8	-51	-62	44	-133	-79	-113
16 MAR	152	213	95	-6	-46	28	-1	62
23 MAR	-16	19	4	-1	-8	28	36	9
30 MAR	98	112	174	139	131	102	87	120
6 APR	11	-7	3	85	225	179	177	96
13 APR	35	1	5	24	101	120	76	52
20 APR	78	76	304	344	63	94	66	146
27 APR	62	134	59	-55	-46	-28	-3	17
4 MAY	20	58	82	120	247	266	214	144
11 MAY	150	144	190	179	203	216	181	180
18 MAY	131	46	45	66	34	-17	-13	42
25 MAY	2	77	118	126	107	35	29	71
1 JUN	27	17	10	28	26	43	185	48
8 JUN	290	186	27	7	16	9	33	81
15 JUN	17	-6	2	87	181	234	277	113
22 JUN	212	187	131	57	20	55	120	111
29 JUN	171	119	86	112	199	212	220	160
6 JUL	120	82	110	135	164	205	249	152
13 JUL	142	169	238	185	101	17	75	132
20 JUL	266	287	81	55	60	67	87	129
27 JUL	108	51	113	184	159	130	134	125
3 AUG	162	205	154	78	56	58	104	117
10 AUG	134	130	149	122	20	5	2	80
17 AUG	4	54	145	146	119	115	122	101
24 AUG	61	47	27	37	59	80	109	60
31 AUG	189	161	72	23	18	35	59	79
7 SEP	112	109	64	72	64	72	20	73
14 SEP	-4	-29	-46	-9	8	18	32	-4
21 SEP	70	64	42	37	11	9	14	35
28 SEP	108	86	159	346	214	81	65	151
5 OCT	24	6	32	52	102	89	37	49
12 OCT	5	7	10	4	-1	19	88	19
19 OCT	50	9	0	-11	-72	-106	-74	-29
26 OCT	-37	11	-26	-92	27	104	47	5
2 NOV	14	11	20	194	286	126	38	98
9 NOV	83	80	45	30	12	-7	5	35
16 NOV	19	12	13	-4	-3	54	20	16
23 NOV	12	78	41	-45	-40	36	65	21
30 NOV	20	6	3	-13	-90	1	127	8
7 DEC	61	16	4	0	1	-45	-45	-1
14 DEC	-44	-288	-15	-53	-39	-31	-13	-69
21 DEC	-286	-49	21	1	-36	-29	-54	-62
28 DEC	-148	-58	-164	-97	-50	-253	-20	-113



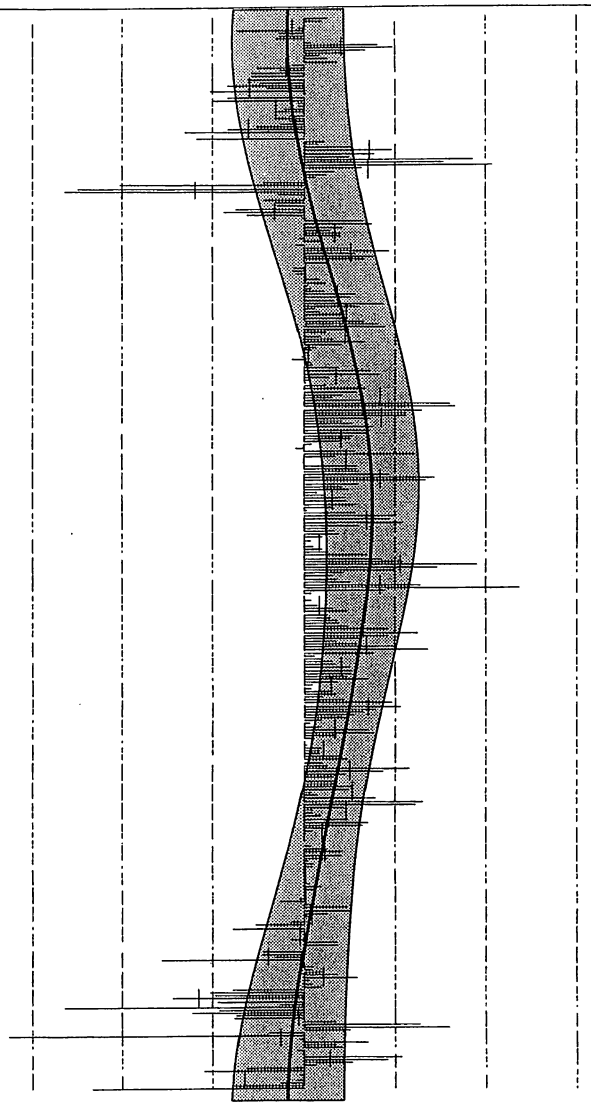
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	52	39	3	-12	-146	-50	-52	-24
11 JAN	-60	15	162	195	136	87	35	81
18 JAN	52	73	-23	-98	-47	-112	-114	-38
25 JAN	-122	-94	-165	-79	-204	3	-167	-118
1 FEB	-199	-13	-12	-40	-60	-28	-63	-59
8 FEB	-30	-49	-103	-166	-260	-1	-236	-121
15 FEB	47	33	104	192	156	98	374	143
22 FEB	306	414	127	66	47	26	-2	141
1 MAR	-88	-404	-499	-530	-54	3	-87	-237
8 MAR	-59	-58	-148	-174	-123	-4	129	-62
15 MAR	148	85	56	82	78	-11	35	68
22 MAR	-15	103	188	114	153	135	55	105
29 MAR	1	-20	-25	-15	5	36	48	4
5 APR	7	16	45	114	103	65	173	75
12 APR	124	23	36	80	96	129	163	93
19 APR	175	99	49	37	64	133	81	91
26 APR	26	18	7	-4	-23	15	20	8
3 MAY	78	145	165	54	10	3	47	72
10 MAY	132	115	83	63	127	320	331	167
17 MAY	260	226	224	146	82	108	152	171
24 MAY	146	141	106	106	82	17	-16	83
31 MAY	112	245	67	-3	-3	117	116	93
7 JUN	120	188	288	268	121	85	98	167
14 JUN	28	44	91	94	113	59	7	62
21 JUN	113	199	187	218	121	55	65	137
28 JUN	76	40	15	3	21	42	55	36
5 JUL	137	171	219	382	293	201	88	213
12 JUL	63	74	103	258	477	181	15	167
19 JUL	-2	14	1	29	63	93	51	36
26 JUL	56	74	78	97	185	252	186	132
2 AUG	120	70	117	202	273	150	23	137
9 AUG	41	62	68	99	106	104	93	82
16 AUG	141	73	19	17	57	67	39	59
23 AUG	87	194	214	156	128	109	90	140
30 AUG	37	13	39	142	155	71	20	68
6 SEP	3	8	38	33	34	80	97	42
13 SEP	39	51	232	173	90	65	68	102
20 SEP	72	105	99	18	30	157	262	106
27 SEP	245	87	21	19	37	97	141	92
4 OCT	130	44			18	4	0	39
11 OCT	15	50	84	81	53	9	22	45
18 OCT	21	-1	-2	-2	0	5	13	5
25 OCT	36	27	5	1	-10	-50	23	5
1 NOV	96	101	53	14	2	-26	-105	19
8 NOV	-155	-6	-2	1	-26	74	73	-6
15 NOV	0	-88	-90	-61	-311	2	21	-75
22 NOV	18	35	74	117	9	18	39	44
29 NOV	-153	-203	-193	-285	-187	-50	-529	-229
6 DEC	-186	-242	-145	-152	72	258	322	-11
13 DEC	100	-73	-654	-6	141	72	82	-49
20 DEC	-13	-2	215	185	107	27	-124	56
27 DEC	-219	-8	-1	-12	-50	-147	-465	-129



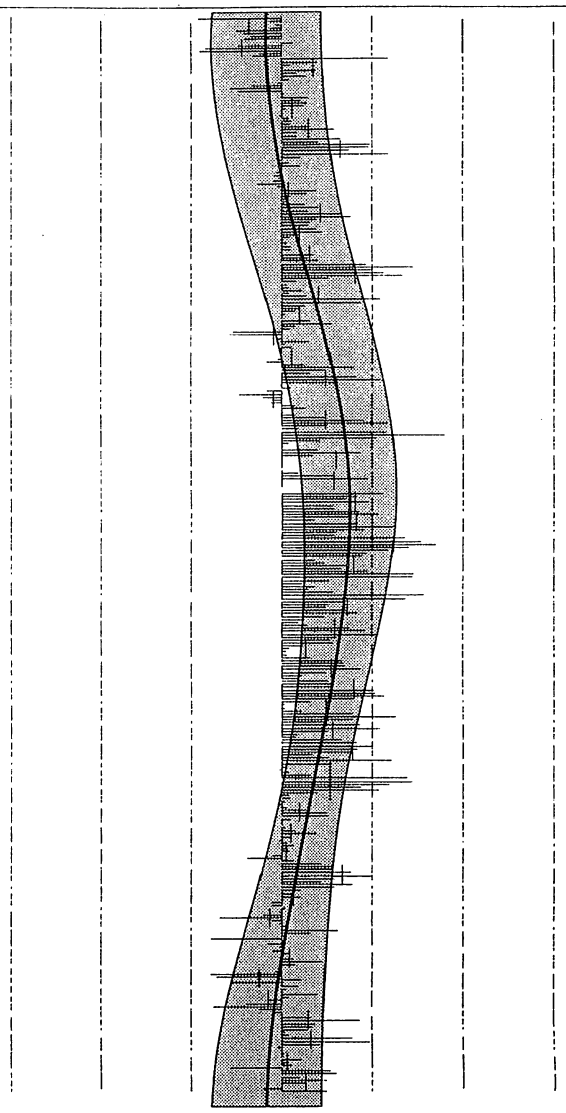
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-182	-23	-11	-23	-100	-82	-68	-70
10 JAN	-82	26	-96	-169	-179	-45	-64	-87
17 JAN	238	78	21	3	77	33	54	72
24 JAN	15	-6	-65	-113	-93	6	57	-28
31 JAN	42	55	48	9	-2	-4	19	24
7 FEB	20	18	66	117	35	35	129	60
14 FEB	83	196	194	150	236	41	-1	128
21 FEB	15	40	-4	-9	-17	-6	-18	0
28 FEB	-52	-9	78	53	22	13	7	16
6 MAR	52	81	58	133	154	80	62	88
13 MAR	61	77	89	29	17	3	9	41
20 MAR	21	21	-4	72	57	79	187	62
27 MAR	293	200	226	268	104	33	10	162
3 APR	17	45	15	54	218	175	51	82
10 APR	43	30	7	1	61	110	31	40
17 APR	19	-108	-114	-7	60	8	20	-17
24 APR	-3	-5	3	-8	-31	53	159	24
1 MAY	98	64	166	218	123	-1	20	98
8 MAY	-32	-93	-39	-21	-25	31	53	-18
15 MAY	4	31	100	183	236	103	38	99
22 MAY	232	361	210	86	15	3	80	141
29 MAY	175	69						122
5 JUN					39	116	190	115
12 JUN	228	168	143	193	113	117	171	162
19 JUN	217	153	73	169	247	185	121	166
26 JUN	116	273	310	343	283	238	188	250
3 JUL	178	75	96	153	133	192	294	160
10 JUL	289	104	45	74	58	114	317	143
17 JUL	276	136	105	98	144	169	95	146
24 JUL	52	38	57	151	185	215	120	117
31 JUL	108	112	49	19	10	12	63	53
7 AUG	131	137	141	173	99	46	36	109
14 AUG	101	110	106	203	207	227	160	159
21 AUG	62	7	6	44	158	253	158	98
28 AUG	96	173	217	102	34	32	132	112
4 SEP	166	200	167	149	68	104	243	157
11 SEP	111	7	-5	14	64	279	289	108
18 SEP	239	177	216	79	15	19	8	108
25 SEP	-5	10	57	99	105	22	-1	41
2 OCT	4	8	29	75	17	-5	13	20
9 OCT	27	13	18	-22	-76	28	88	11
16 OCT	113	113	155	202	117	89	158	135
23 OCT	117	43	28	40	8	-21	-20	28
30 OCT	8	-3	-39	-138	-21	-3	9	-27
6 NOV	123	64	4	-158	5	-28	-3	1
13 NOV	-17	14	-1	25	91	29	-7	19
20 NOV	-14	-156	-142	42	-111	38	9	-48
27 NOV	2	79	14	-28	-77	-153	-50	-30
4 DEC	-17	-6	65	174	73	68	56	59
11 DEC	7	15	157	196	85	-6	0	65
18 DEC	5	3	42	17	24	-112	108	12
25 DEC	120	42	99	51	1	-41	100	53



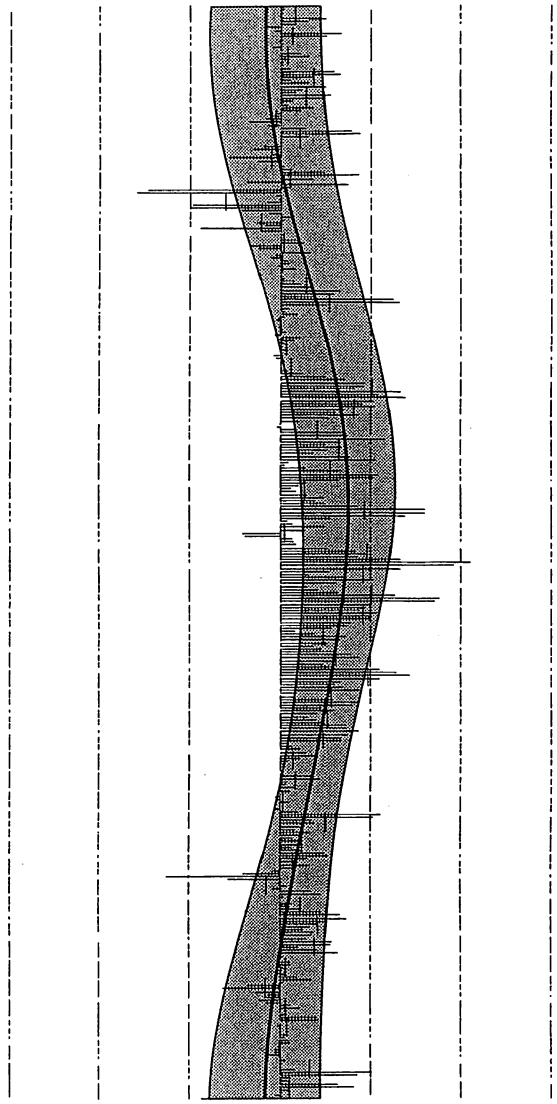
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	22	7	6	-1	97	59	35	32
8 JAN	-36	-12	134	101	0	-3	4	27
15 JAN	-18	1	43	63	9	4	5	15
22 JAN	20	119	131	75	22	59	98	75
29 JAN	45	31	109	96	26	15	71	56
5 FEB	42	-13	-19	-32	-68	-27	54	-9
12 FEB	156	178	61	1	2	-39	-56	43
19 FEB	-1	-18	-117	-48	-2	11	25	-21
26 FEB	95	175	70	-72	148	19	-294	20
5 MAR	-318	-10	-5	-29	-194	-199	-86	-120
12 MAR	-26	24	7	-52	-34	-176	-41	-43
19 MAR	3	2	32	50	-67	-45	66	6
26 MAR	-13	-22	15	19	-4	31	-2	3
2 APR	3	7	29	43	73	130	116	57
9 APR	68	250	263	98	18	11	38	106
16 APR	7	-9	-1	-3	5	11	-13	-1
23 APR	40	30	7	4	15	2	-16	12
30 APR	-11	10	1	2	16	48	99	23
7 MAY	144	189	184	164	266	215	276	205
14 MAY	207	182	209	142	122	174	103	163
21 MAY	36	-2	-8	34	139	149	233	83
28 MAY	133	99	135	101	75	155	213	130
4 JUN	17	9	58	131	219	210	131	110
11 JUN	57	39	25	36	59	95	77	55
18 JUN	95	171	320	321	277	109	16	187
25 JUN	27	97	55	-82	-77	25	30	11
2 JUL	34	105	166	187	172	266	424	194
9 JUL	388	267	106	63	143	208	124	186
16 JUL	60	82	131	254	355	344	204	204
23 JUL	191	175	215	205	200	157	145	184
30 JUL	113	32	76	143	132	104	74	96
6 AUG	89	121	156	178	112	95	108	123
13 AUG	222	257	288	220	133	121	139	197
20 AUG	175	37	32	119	171	159	90	112
27 AUG	118	83	59	80	99	146	145	104
3 SEP	173	149	135	135	16	27	43	97
10 SEP	57	80	42	19	7	3	4	30
17 SEP	6	70	88	16	13	34	20	35
24 SEP	0	-9	-5	22	-1	-6	40	6
1 OCT	222	206	71	77	44	33	65	102
8 OCT	47	26	45	51	26	45	97	48
15 OCT	105	61	35	65	30	-15	-78	29
22 OCT	-250	-113	-1	15	-17	69	91	-29
29 OCT	7	3	26	14	46	90	131	45
5 NOV	147	95	84	65	52	75	69	84
12 NOV	57	114	111	41	83	128	7	77
19 NOV	-4	20	23	8	3	9	36	14
26 NOV	72	7	-71	-125	-52	-27	-36	-33
3 DEC	-44	-29	24	43	-2	16	82	13
10 DEC	84	3	-4	2	-3	11	11	15
17 DEC	19	23	-5	-10	-10	-25	3	-1
24 DEC	14	3	1	33	204	171	23	64
31 DEC	16	126	161	19	3	-10	-173	20

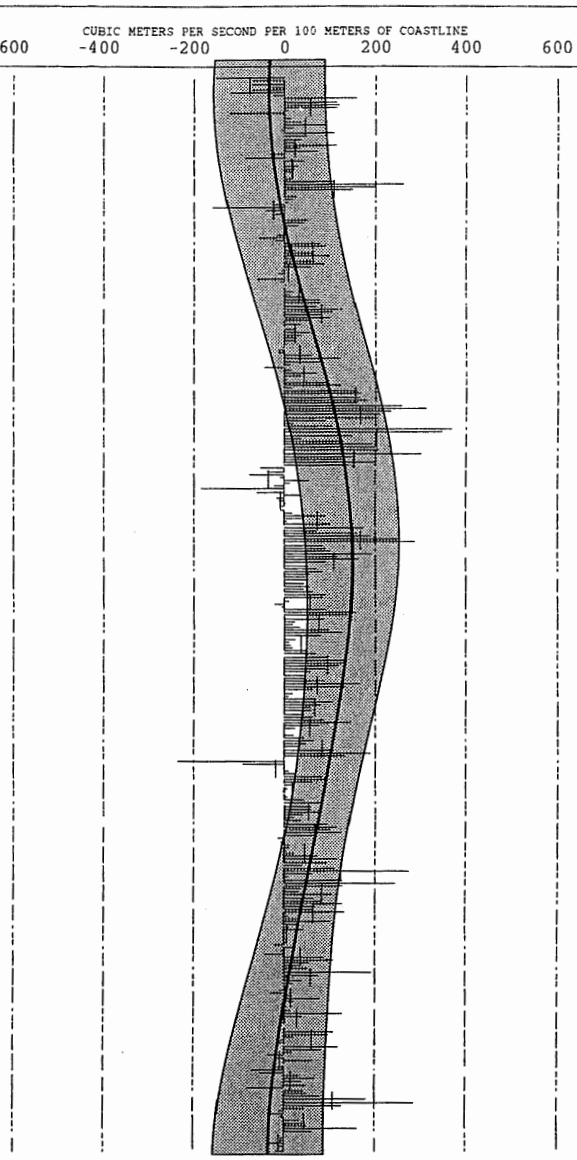


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1990 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-149	-69	-71	-36	-70	-119	-24	-77
14 JAN	159	116	121	116	9	-121	3	58
21 JAN	16	39	91	22	-5	109	48	46
28 JAN	37	23	117	35	73	-32	-86	24
4 FEB	44	0	29	20	14	3	19	18
11 FEB	111	263	198	151	5	23	17	109
18 FEB	10	-20	-158	-40	-18	1	52	-25
25 FEB	42	28	7	-1	-14	-57	-19	-2
4 MAR	80	93	24	61	98	17	67	63
11 MAR	87	56	-8	-13	2	-58	-6	9
18 MAR	4	-2	19	11	42	77	79	33
25 MAR	71	127	108	80	98	59	34	82
1 APR	2	22	57	37	28	20	7	24
8 APR	-2	-11	-13	61	123	78	13	36
15 APR	-44	16	72	37	8	97	123	44
22 APR	15	159	167	165	182	160	260	158
29 APR	314	236	210	207	91	21	107	169
6 MAY	371	348	150	38	131	194	198	204
13 MAY	210	302	148	126	203	144	-50	155
20 MAY	-33	-76	-8	53	14	-21	-182	-36
27 MAY	-59	37	-15	-11	5	-6	-8	-8
3 JUN	19	94	40	7	103	174	72	73
10 JUN	160	191	257	289	85	90	103	168
17 JUN	193	116	162	89	47	71	82	108
24 JUN	58	52	54	44	55	42	61	52
1 JUL	90	82	10	-22	-4	91	157	58
8 JUL	139	89	22	19	35	96	127	75
15 JUL	80	22	11	14	19	48	68	37
22 JUL	97	132	136	120	90	56	45	97
29 JUL	48	89	164	134	63	17	10	75
5 AUG	70	106	79	58	61	44	62	68
12 AUG	88	147	76	23	2	22	42	57
19 AUG	66	49	38	110	192	133	-3	83
26 AUG	-235	-92	-2	10	25	82	92	-17
2 SEP	63	15	7	-1	2	6	43	19
9 SEP	78	60	60	79	39	20	37	53
16 SEP	97	115	102	126	65	-11	-8	69
23 SEP	9	10	4	22	72	115	94	46
30 SEP	42	113	278	64	10	128	247	126
7 OCT	130	38	31	106	66	86	130	84
14 OCT	71	63	135	9	39	105	36	65
21 OCT	14	44	8	2	4	7	-21	8
28 OCT	25	-5	-40	87	111	56	38	39
4 NOV	54	193	78	20	40	21	8	59
11 NOV	-8	-28	17	81	23	5	8	14
18 NOV	15	130	40	5	4	1	3	28
25 NOV	110	99	22	-4	-6	122	85	61
2 DEC	18	-33	-19	62	3	-14	-67	-7
9 DEC	-50	37	72	41	52	-80	45	17
16 DEC	54	80	181	287	130	45	-7	110
23 DEC	-29	-8	36	49	51	163	62	46
30 DEC	-1	-8	-11	-32	-8	0	-16	-11



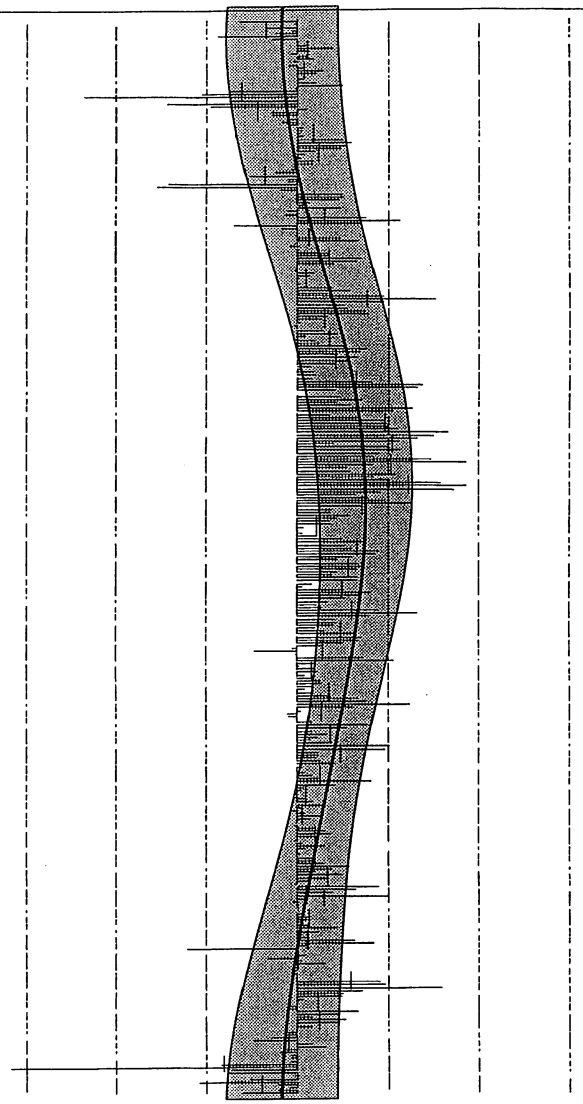
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-122	-7	-65	-11	-46	-173	-54	-68
13 JAN	2	19	79	27	-12	20	36	24
20 JAN	-7	-19	13	57	44	-3	12	14
27 JAN	39	100	-5	-146	-211	-471	-147	-120
3 FEB	-286	-190	21	-57	-55	-21	-31	-88
10 FEB	-15	11	11	7	14	99	119	35
17 FEB	106	92	37	15	6	36	31	46
24 FEB	-8	-11	-46	-104	-20	-22	-282	-70
3 MAR	-308	-35	99	100	91	25	21	-1
10 MAR	94	-22	-25	152	226	137	-138	60
17 MAR	-32	-2	-1	97	134	-4	-14	25
24 MAR	4	67	71	140	129	81	-1	70
31 MAR	-4	37	27	7	-3	7	81	22
7 APR	116	69	190	307	192	103	111	155
14 APR	152	158	66	55	7	-8	-3	61
21 APR	57	88	21	37	45	102	150	71
28 APR	140	89	133	112	84	30	11	85
5 MAY	35	42	32	164	276	265	82	128
12 MAY	1	93	142	87	115	254	214	129
19 MAY	71	131	192	197	201	220	332	192
26 MAY	300	264	223	79	200	227	180	210
2 JUN	167	297	374	165	109	119	216	207
9 JUN	168	203	315	374	346	182	130	245
16 JUN	156	193	253	141	77	75	116	144
23 JUN	88	72	74	14	4	14	42	44
30 JUN	99	140	106	118	180	170	122	133
7 JUL	91	136	143	131	87	76	132	114
14 JUL	133	31	12	103	164	136	104	97
21 JUL	69	44	55	177	265	157	83	121
28 JUL	85	79	40	61	123	141	138	95
4 AUG	100	55	-11	-94	-2	146	213	58
11 AUG	43	6	39	45	19	29	51	33
18 AUG	54	33	19	34	73	133	153	71
25 AUG	247	121	10	-20	-17	2	32	54
1 SEP	154	111	35	66	47	28	76	74
8 SEP	205	193	46	50	44	51	85	96
15 SEP	12	2	17	32	49	162	85	51
22 SEP	15	9	-1	3	18	35	64	20
29 SEP	10	-12	19	52	29	-3	-5	13
6 OCT	37	62	74	39	-3	11	60	40
13 OCT	18	-2	10	38	40	57	115	39
20 OCT	75	42	99	65	23	-3	180	69
27 OCT	128	79	201	20	-11	3	3	60
3 NOV	4	10	24	21	4	25	89	25
10 NOV	45	15	28	126	167	21	-241	23
17 NOV	-3	17	-63	12	62	4	-3	4
24 NOV	-1	3	-3	181	193	317	144	119
1 DEC	102	99	13	4	-13	-14	136	47
8 DEC	89	32	108	94	35	-1	-18	48
15 DEC	-17	-55	-94	31	62	-25	-37	-19
22 DEC	-12	-13	-11	-165	-636	-143	-148	-161
29 DEC	-4	-103	-214	-39	-16	-41	-117	-76

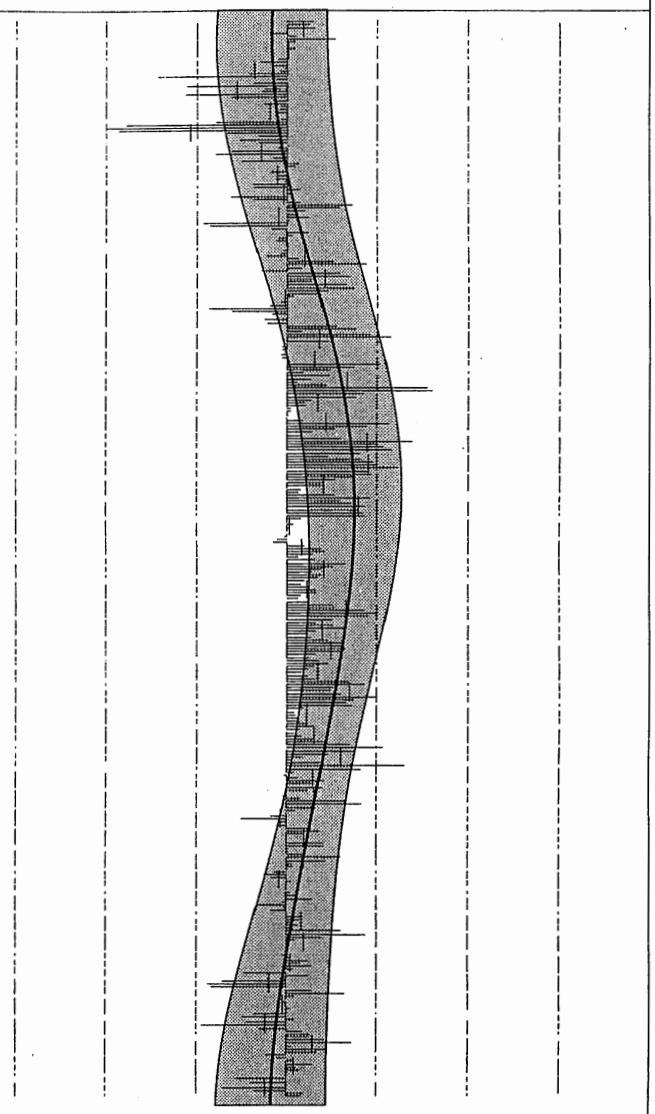


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1992 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	59	53	63	-1	-39	20	108	38
12 JAN	21	3	17	1	1	2	-17	4
19 JAN	-57	-32	-4	-13	-82	-284	-25	-71
26 JAN	-71	-221	-52	-56	-224	-121	-21	-109
2 FEB	-50	-12	-15	-17	-2	-11	-158	-38
9 FEB	-356	-398	-372	-134	-63	-106	-62	-213
16 FEB	4	-22	-121	-156	-30	-100	27	-57
23 FEB	18	-2	-34	-25	-24	-5	-72	-21
1 MAR	-72	29	7	-124	-72	30	146	-8
8 MAR	114	40	25	48	7	-184	-170	-17
15 MAR	-35	49	13	-20	-24	5	5	-1
22 MAR	-6	-11	-45	26	105	176	36	40
29 MAR	-58	117	139	56	55	131	151	85
5 APR	91	76	17	3	-12	-38	-174	-5
12 APR	-122	-33	1	-51	-44	109	156	2
19 APR	31	185	230	93	3	-9	-10	75
26 APR	-4	-12	-9	7	208	152	95	62
3 MAY	39	92	54	25	89	313	325	134
10 MAY	174	154	57	42	42	11	11	70
17 MAY	4	-2	38	225	177	106	57	86
24 MAY	34	120	279	201	216	233	163	178
31 MAY	94	169	192	202	249	180	187	182
7 JUN	145	107	82	83	33	27	105	83
14 JUN	186	120	143	175	161	168	175	161
21 JUN	31	1	14	7	3	1	-4	8
28 JUN	-22	-29	40	78	81	60	26	34
5 JUL	61	131	106	77	57	77	71	83
12 JUL	41	33	52	68	69	31	26	46
19 JUL	52	102	111	173	203	184	103	132
26 JUL	65	103	129	64	49	53	91	79
2 AUG	123	120	133	120	66	50	74	98
9 AUG	92	62	49	36	50	63	136	70
16 AUG	172	104	99	120	198	148	133	139
23 AUG	146	40	19	21	27	29	48	47
30 AUG	63	30	19	36	62	86	139	62
6 SEP	216	154	93	39	10	74	263	121
13 SEP	166	18	-5	27	86	57	79	61
20 SEP	48	-2	-7	31	132	169	65	62
27 SEP	21	-3	-35	-97	-17	-20	57	-13
4 OCT	77	40	0	3	80	83	7	41
11 OCT	5	42	121	87	12	16	1	41
18 OCT	-27	-49	-33	12	-1	-3	0	-14
25 OCT	10	24	58	-7	-61	-5	-35	-2
1 NOV	3	36	29	11	27	15	121	34
8 NOV	177	79	21	1	10	0	-3	41
15 NOV	-7	6	49	35	57	18	-90	10
22 NOV	50	-13	-141	-174	-165	58	130	-36
29 NOV	21	-2	-6	-2	9	3	-68	-6
6 DEC	-97	19	-86	-187	-57	38	55	-45
13 DEC	49	85	147	13	88	72	-42	59
20 DEC	-19	18	59	24	33	3	1	17
27 DEC	-107	-77	2	-140	-69	42	35	-45



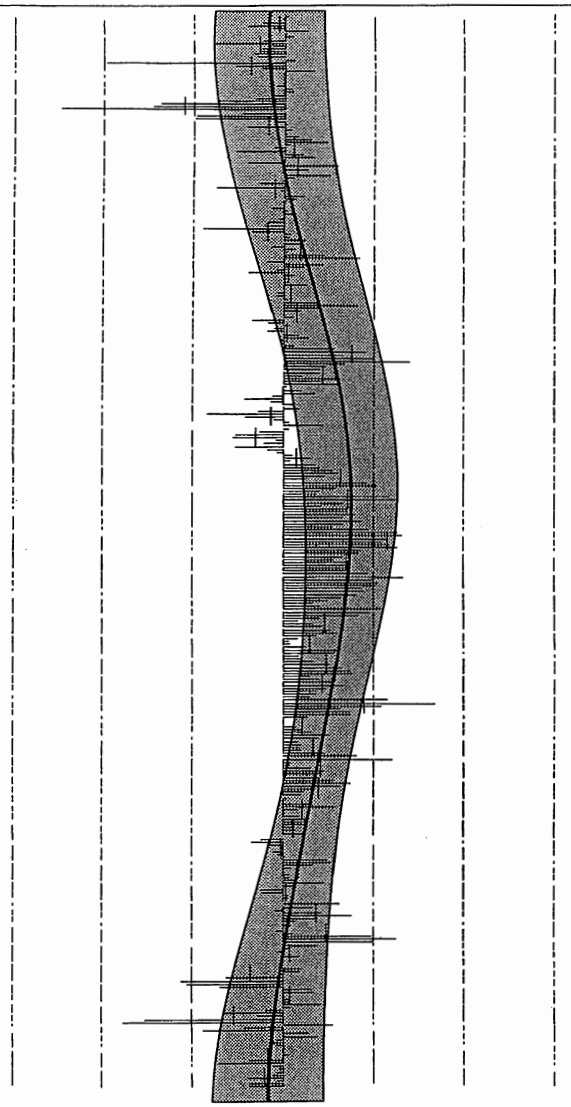
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	8	-5	-46	-79	-27	52	4	-13
10 JAN	17	-45	-157	-27	-50	-52	-66	-54
17 JAN	-56	21	-392	-108	-49	65	-4	-75
24 JAN	-1	0	-1	-19	17	18	-21	-1
31 JAN	-63	-148	-273	-291	-492	-91	-194	-222
7 FEB	-195	-23	7	-82	16	4	29	-35
14 FEB	59	95	10	-25	-107	39	66	20
21 FEB	-3	-80	117	53	-8	101	20	28
28 FEB	-6	-54	-148	-10	-1	44	27	-21
7 MAR	5	-1	-28	7	25	1	-10	0
14 MAR	-31	-42	-177	-71	14	14	46	-35
21 MAR	35	-27	27	8	90	169	-36	38
28 MAR	88	43	-14	-77	23	4	9	11
4 APR	50	-1	0	-12	-14	9	73	15
11 APR	166	84	37	3	21	-69	-31	30
18 APR	11	-21	-35	33	57	-5	-2	6
25 APR	24	113	181	128	199	279	139	152
2 MAY	93	78	78	39	120	85	118	87
9 MAY	7	40	67	-25	-86	-27	22	0
16 MAY	34	-53	-167	-81	-21	13	89	-27
23 MAY	12	-53	-105	-110	-17	-40	-105	-60
30 MAY	-33	-12	22	61	14	70	80	29
6 JUN	108	120	92	53	184	209	116	126
13 JUN	79	75	234	249	131	85	144	142
20 JUN	144	159	132	175	133	107	189	148
27 JUN	253	263	230	218	237	254	171	232
4 JUL	167	130	114	142	138	148	137	139
11 JUL	188	264	198	210	208	173	178	203
18 JUL	164	126	100	66	81	216	192	135
25 JUL	167	79	33	65	88	108	119	94
1 AUG	74	31	11	16	53	125	113	60
8 AUG	35	40	66	104	128	149	152	96
15 AUG	61	79	105	131	95	74	73	88
22 AUG	59	231	337	217	128	145	148	181
29 AUG	53	2	2	29	42	64	102	42
5 SEP	80	31	41	37	39	89	164	69
12 SEP	244	19	16	62	89	87	82	85
19 SEP	109	149	126	71	46	41	10	79
26 SEP	3	65	115	33	5	39	52	44
3 OCT	48	56	27	30	47	2	-45	23
10 OCT	-69	-32	-6	-22	-10	6	100	-5
17 OCT	105	65	19	1	14	13	26	35
24 OCT	89	23	-45	-43	10	13	-3	6
31 OCT	124	66	-15	85	151	77	29	74
7 NOV	18	-2	-11	22	196	251	199	96
14 NOV	75	12	-10	-3	34	0	-3	15
21 NOV	1	40	37	-10	-125	-222	-209	-70
28 NOV	-138	64	67	3	14	14	84	15
5 DEC	16	-37	-131	-55	-304	-353	111	-107
12 DEC	-83	-175	58	77	-13	-28	-14	-25
19 DEC	4	-2	12	-1	-74	-141	-20	-32
26 DEC	-8	-13	-23	-78	-12	-74	-75	-40



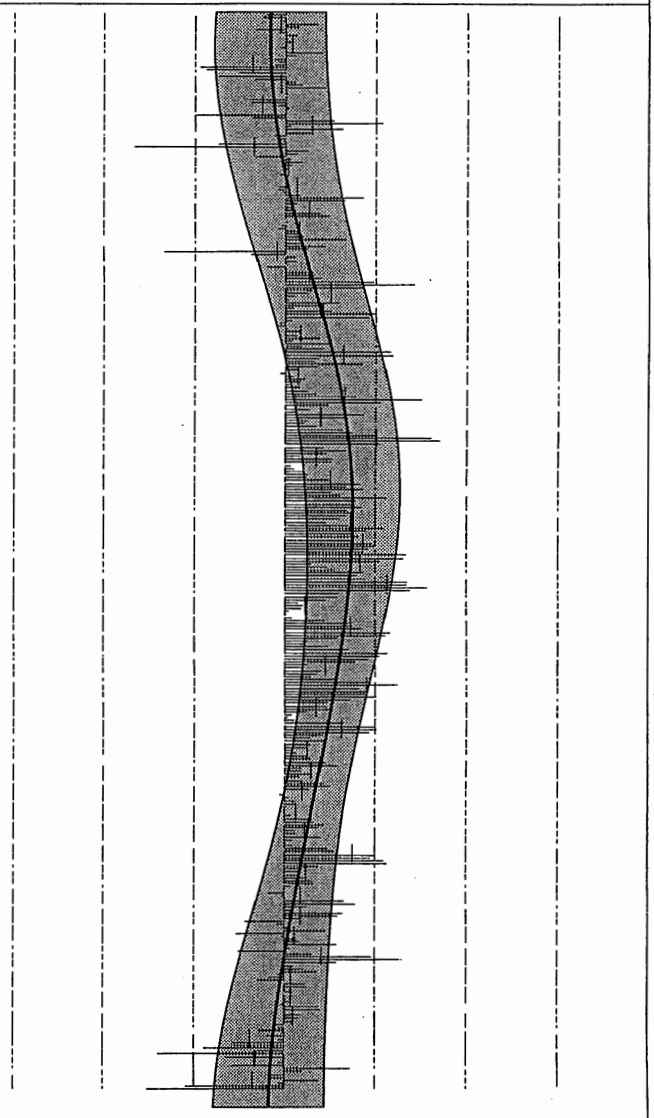
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-41	-48	-5	74	31	-64	-13	-9
9 JAN	27	5	10	0	-9	2	81	17
16 JAN	24	-23	-13	-23	-188	-174	-101	-71
23 JAN	-146	-65	21	37	89	2	4	-8
30 JAN	5	-77	-75	-16	6	2	-197	-50
6 FEB	-70	108	214	11	126	58	-23	60
13 FEB	-15	-3	-146	-332	49	25	-63	-69
20 FEB	12	37	11	3	-4	-9	2	7
27 FEB	1	2	-13	-17	-4	33	174	25
6 MAR	133	26	12	22	79	97	1	53
13 MAR	5	-7	-16	31	32	42	132	31
20 MAR	40	89	51	-266	-73	20	23	-17
27 MAR	5	-40	1	63	66	79	197	53
3 APR	286	173	58	48	21	6	119	101
10 APR	86	17	103	202	184	17	-10	85
17 APR	-12	8	31	26	79	16	96	35
24 APR	42	84	233	237	74	64	171	129
1 MAY	71	33	-10	18	45	36	9	29
8 MAY	35	48	68	158	301	211	96	131
15 MAY	55	23	175	138	52	42	70	79
22 MAY	126	147	203	323	343	210	86	205
29 MAY	135	93	34	104	105	13	21	72
5 JUN	42	52	48	97	166	138	175	102
12 JUN	103	120	224	158	149	171	139	152
19 JUN	142	136	120	90	140	222	180	147
26 JUN	153	167	148	193	201	184	174	174
3 JUL	268	262	209	60	93	109	175	168
10 JUL	161	177	270	267	315	278	119	226
17 JUL	117	90	28	39	39	10	5	47
24 JUL	15	86	141	152	167	233	223	145
31 JUL	115	51	43	97	141	227	211	126
7 AUG	184	158	50	36	78	70	59	91
14 AUG	113	190	248	165	181	178	205	183
21 AUG	146	94	90	105	49	15	8	72
28 AUG	22	130	202	205	188	84	57	127
4 SEP	90	58	46	20	28	52	60	50
11 SEP	91	118	40	38	61	33	41	60
18 SEP	88	102	54	5	-9	11	24	39
25 SEP	27	4	2	0	16	62	67	25
2 OCT	88	78	24	30	78	19	4	46
9 OCT	18	96	111	200	190	220	226	151
16 OCT	77	37	32	30	44	63	67	50
23 OCT	16	-2	-35	-3	4	132	158	39
30 OCT	49	22	128	118	36	-85	-13	36
6 NOV	13	92	-104	-3	26	36	116	25
13 NOV	12	-99	63	194	261	116	20	81
20 NOV	43	72	-14	-32	-61	45	52	15
27 NOV	3	17	-1	1	13	-6	77	15
4 DEC	81	1	39	33	22	-18	-13	21
11 DEC	-55	-6	-39	-11	-109	-113	-177	-73
18 DEC	-57	-277	-126	-1	-14	-112	147	-63
25 DEC	39	-35	-33	78	-11	-215	-300	-68



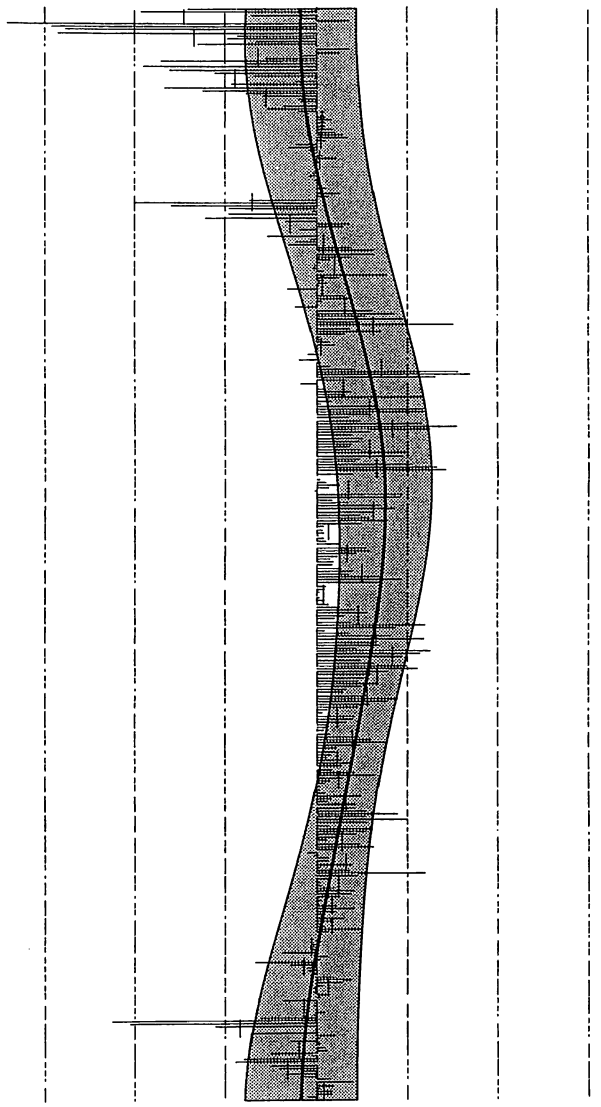
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE, CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 39N, 125W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-282	-384	-141	-35	75	-684	-585	-291
8 JAN	-555	-571	-171	-193	-129	-259	1	-268
15 JAN	72	53	-26	-109	-340	-152	-380	-126
22 JAN	-321	-222	-138	-5	-42	-184	-332	-178
29 JAN	-250	-154	-116	-38	-34	-72	-105	-110
5 FEB	-37	0	19	33	17	19	35	12
12 FEB	41	60	67	20	-43	-61	-16	10
19 FEB	-2	14	43	6	-6	-4	0	7
26 FEB	-7	-13	-3	1	4	20	2	1
5 MAR	52	28	-147	-401	-319	-190	-11	-141
12 MAR	-192	-244	-66	72	60	-34	-1	-58
19 MAR	-108	-12	-46	-60	78	126	127	15
26 MAR	75	30	6	-3	-6	17	154	39
2 APR	49	15	25	4	-62	-1	59	13
9 APR	68	10	0	-45	124	171	108	62
16 APR	191	97	303	75	143	62	8	125
23 APR	14	30	39	3	-5	-19	2	9
30 APR	-39	10	31	85	312	340	262	143
7 MAY	64	-35	4	16	75	62	231	60
14 MAY	33	9	134	234	236	118	70	119
21 MAY	96	232	309	251	119	79	101	169
28 MAY	94	80	73	96	197	190	96	118
4 JUN	84	209	266	285	80	1	7	133
11 JUN	20	52	27	-4	189	184	35	72
18 JUN	69	141	170	127	95	119	157	125
25 JUN	100	15	13	15	5	15	21	26
2 JUL	50	110	117	87	47	30	39	68
9 JUL	34	54	79	70	140	189	142	101
16 JUL	21	19	7	2	6	18	27	14
23 JUL	46	84	112	59	41	77	240	94
30 JUL	173	17	71	163	239	128	136	132
6 AUG	86	253	228	188	95	125	199	168
13 AUG	224	158	122	104	94	135	99	134
20 AUG	65	58	113	180	158	119	90	112
27 AUG	24	13	81	80	66	28	24	45
3 SEP	16	31	92	121	152	96	47	79
10 SEP	40	32	21	54	78	58	33	45
17 SEP	84	129	58	30	17	8	8	48
24 SEP	19	99	32	25	86	83	109	65
1 OCT	181	107	201	111	27	122	109	122
8 OCT	88	43	22	95	126	40	-17	57
15 OCT	-6	27	28	80	7	75	241	64
22 OCT	91	27	10	11	38	83	76	48
29 OCT	51	10	4	45	85	43	11	35
5 NOV	61	37	6	18	100	25	2	35
12 NOV	1	9	-6	-11	-9	-75	24	-10
19 NOV	6	-132	-56	-18	-18	-3	39	-26
26 NOV	81	56	14	-5	-5	27	8	25
3 DEC	-72	-3	-5	1	18	-5	-120	-27
10 DEC	-447	-411	-221	-1	-135	43	8	-166
17 DEC	-55	7	18	24	-98	-10	-157	-39
24 DEC	-178	-96	-78	-28	-66	-30	30	-64
31 DEC	80	39	8	34	34	-18	-68	15



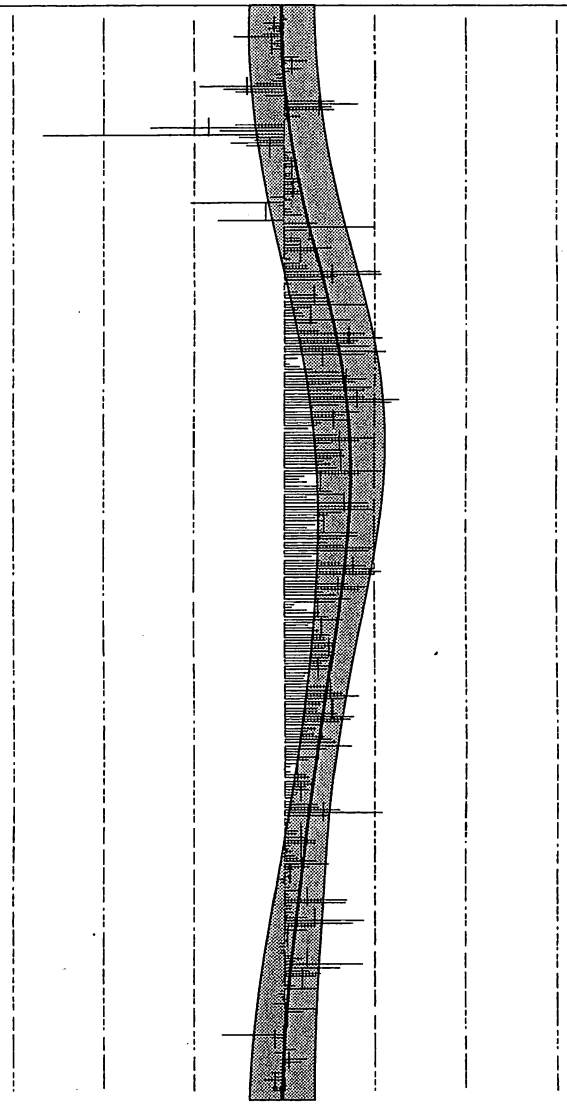
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1986 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	0	10	-42	-24	-31	-15	-46	-21
12 JAN	-110	-16	-22	-15	-24	3	-6	-27
19 JAN	32	51	6	-8	39	14	-15	17
26 JAN	-16	-25	-66	-187	-134	-108	-40	-82
2 FEB	6	111	161	105	109	11	36	77
9 FEB	6	-2	-107	-295	-143	-533	-100	-168
16 FEB	-67	-119	-83	-4	15	7	25	-32
23 FEB	30	15	24	1	18	12	37	19
2 MAR	37	21	25	35	36	-28	18	21
9 MAR	-206	-11	16	19	40	-1	-145	-41
16 MAR	73	200	50	-1	5	35	39	57
23 MAR	31	104	69	7	0	11	34	37
30 MAR	51	55	212	216	116	80	14	106
6 APR	-1	-3	30	72	94	109	183	69
13 APR	62	29	40	45	145	74	29	60
20 APR	29	75	180	217	166	155	187	144
27 APR	116	223	177	30	4	12	34	85
4 MAY	64	121	146	179	157	106	192	138
11 MAY	179	104	180	254	237	120	68	163
18 MAY	167	135	112	149	81	73	54	110
25 MAY	64	119	203	169	106	76	131	124
1 JUN	129	134	108	88	101	114	218	127
8 JUN	171	47	34	50	77	88	103	81
15 JUN	132	50	70	186	188	195	129	136
22 JUN	97	72	89	71	51	86	162	90
29 JUN	163	126	96	133	196	188	75	139
6 JUL	62	82	127	181	201	217	201	153
13 JUL	80	78	142	179	166	88	115	121
20 JUL	150	114	22	17	51	82	97	76
27 JUL	129	68	54	64	79	102	91	84
3 AUG	92	109	112	91	99	113	99	102
10 AUG	95	85	105	95	58	45	42	75
17 AUG	57	50	101	108	130	165	128	106
24 AUG	91	83	75	74	118	155	146	106
31 AUG	120	81	71	53	65	92	104	83
7 SEP	116	147	93	33	28	72	55	78
14 SEP	26	12	0	13	48	54	57	30
21 SEP	72	47	53	30	25	22	20	38
28 SEP	72	77	124	217	102	14	12	88
5 OCT	9	10	30	28	43	71	68	37
12 OCT	12	9	18	24	28	70	99	37
19 OCT	54	21	7	14	-10	-6	3	12
26 OCT	9	37	10	14	137	135	15	51
2 NOV	13	18	8	49	177	151	69	69
9 NOV	48	10	-1	2	9	-7	-9	7
16 NOV	-6	-8	18	36	23	174	124	52
23 NOV	53	81	70	-2	-5	24	70	42
30 NOV	-7	-12	-8	-5	-20	4	66	2
7 DEC	42	7	3	-2	1	-5	-5	6
14 DEC	-6	-137	-26	-8	0	7	24	-21
21 DEC	-22	-1	47	38	5	-1	-5	9
28 DEC	-28	-20	-42	-5	4	-27	-24	-20



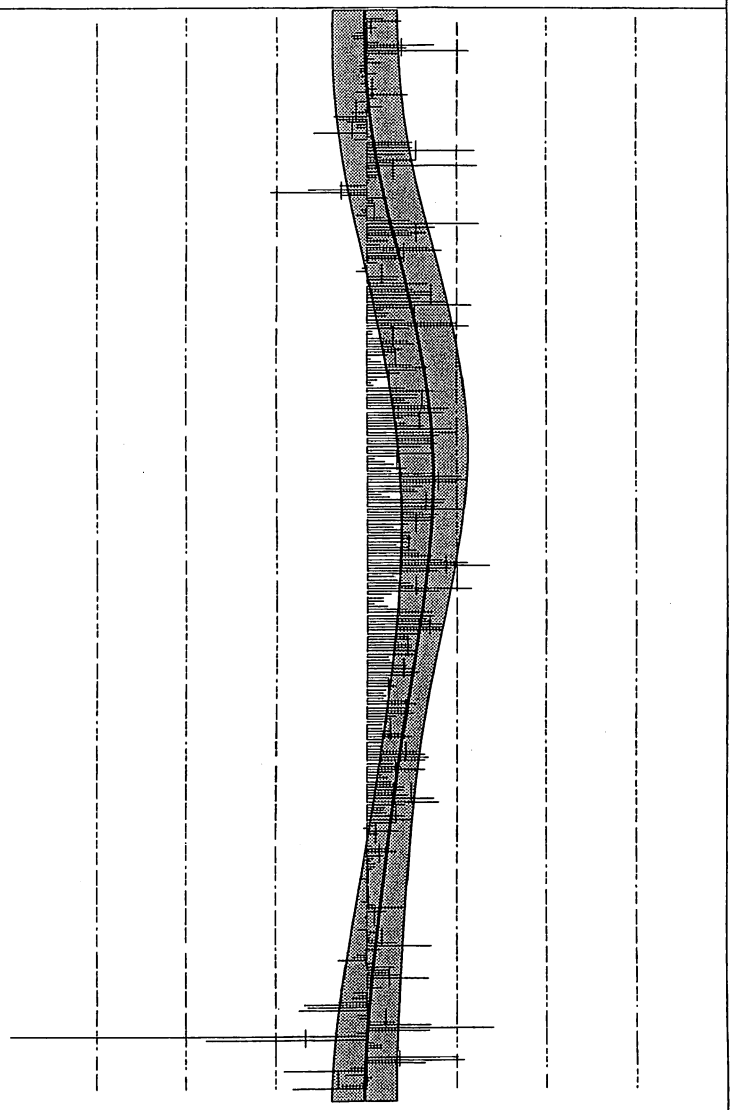
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	38	77	-4	21	-5	-24	-33	10
11 JAN	-28	25	147	86	225	69	5	76
18 JAN	15	32	-14	-13	-17	22	-13	2
25 JAN	-3	-11	-2	20	-23	89	21	13
1 FEB	-17	5	34	-5	-33	-73	-68	-23
8 FEB	-43	-20	-22	-2	-117	12	-28	-31
15 FEB	102	95	102	239	85	31	111	109
22 FEB	54	247	32	28	32	22	8	60
1 MAR	3	-60	-129	-212	-55	46	15	-56
8 MAR	16	18	-14	-8	-20	37	95	18
15 MAR	250	151	89	129	99	11	49	111
22 MAR	29	137	164	72	72	82	23	82
29 MAR	-2	-11	-25	4	71	69	131	34
5 APR	83	105	146	145	119	174	232	143
12 APR	105	38	49	45	81	199	227	106
19 APR	93	13	13	41	90	105	61	59
26 APR	77	65	45	9	32	103	137	67
3 MAY	109	72	50	23	11	14	85	52
10 MAY	145	113	110	83	93	138	183	123
17 MAY	172	119	78	59	87	127	191	119
24 MAY	199	160	146	150	158	119	68	143
31 MAY	148	65	17	40	60	87	56	67
7 JUN	150	209	221	198	124	104	114	160
14 JUN	32	53	174	171	158	214	123	132
21 JUN	160	152	139	89	61	75	97	110
28 JUN	87	95	89	65	94	110	114	93
5 JUL	147	168	223	274	187	161	74	176
12 JUL	59	69	96	103	232	161	54	111
19 JUL	39	37	15	46	86	143	148	73
26 JUL	133	144	165	166	165	115	90	140
2 AUG	96	70	99	99	111	107	49	90
9 AUG	50	61	89	102	114	105	50	81
16 AUG	57	52	66	42	37	42	38	48
23 AUG	90	106	92	100	104	65	55	87
30 AUG	45	34	35	52	76	99	38	54
6 SEP	36	37	31	110	129	138	129	87
13 SEP	59	75	128	58	31	48	54	65
20 SEP	67	83	83	68	91	148	159	100
27 SEP	86	40	37	44	85	95	66	65
4 OCT	18	-7			70	25	2	22
11 OCT	9	48	65	38	17	10	17	29
18 OCT	22	13	4	0	-15	-2	0	3
25 OCT	4	1	1	6	7	-10	18	4
1 NOV	79	44	0	-3	1	1	-1	17
8 NOV	-19	17	7	7	17	69	142	34
15 NOV	31	2	-21	-31	-62	19	61	0
22 NOV	48	50	75	137	6	11	35	52
29 NOV	-3	-31	-14	-31	-63	-138	-130	-58
6 DEC	-150	0	-19	-15	63	144	282	44
13 DEC	140	-22	-791	-355	14	34	34	-135
20 DEC	4	2	205	219	131	2	-38	75
27 DEC	-181	-45	11	4	-14	-55	-161	-63



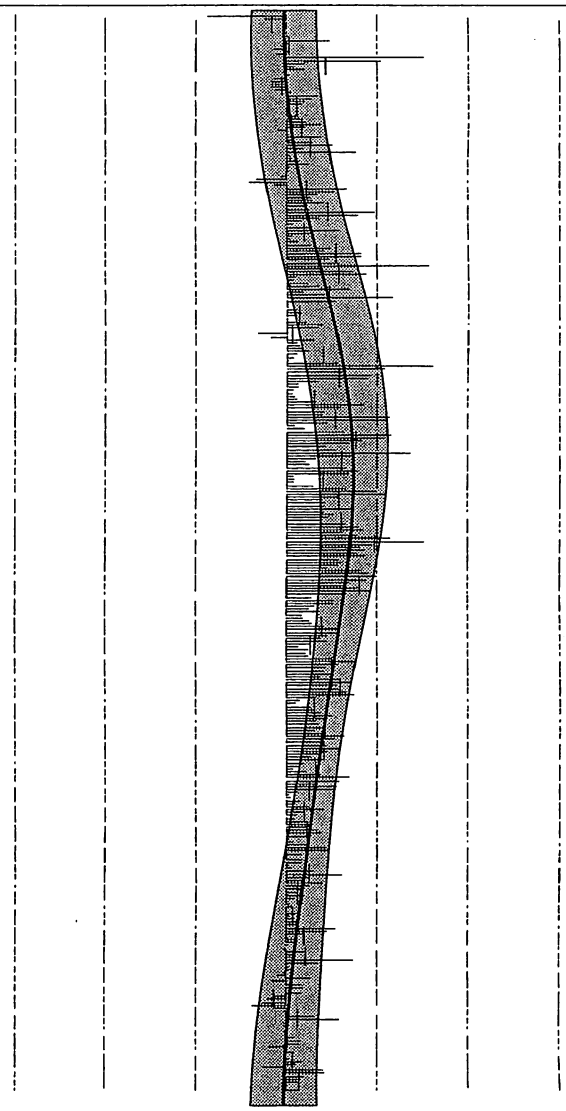
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-173	-45	3	0	-3	1	0	-31
10 JAN	5	97	6	-11	-28	9	-21	8
17 JAN	303	210	40	14	40	-7	8	87
24 JAN	-25	-33	-34	-31	-23	13	72	-9
31 JAN	57	39	36	0	-2	8	27	24
7 FEB	28	42	77	44	-18	2	78	36
14 FEB	18	58	101	38	154	6	10	55
21 FEB	30	50	6	3	0	-9	-66	2
28 FEB	-81	-27	134	105	72	53	58	45
6 MAR	86	46	55	197	161	72	35	93
13 MAR	16	53	117	53	13	6	26	41
20 MAR	53	99	81	166	166	93	115	110
27 MAR	316	83	145	176	21	16	50	115
3 APR	72	141	38	84	235	107	3	97
10 APR	4	24	33	20	2	42	82	29
17 APR	72	1	-63	-36	60	24	29	12
24 APR	34	49	24	16	4	116	322	81
1 MAY	217	125	188	180	71	26	28	119
8 MAY	16	12	17	25	66	172	121	61
15 MAY	84	78	229	225	90	18	41	109
22 MAY	126	233	218	165	139	88	110	154
29 MAY	273	151	66	42	51	133	156	124
5 JUN	137	14	19	15	61	131	199	82
12 JUN	217	118	81	89	85	152	85	118
19 JUN	103	92	73	133	160	172	126	123
26 JUN	157	230	304	191	166	174	158	197
3 JUL	178	118	121	116	91	169	183	139
10 JUL	201	176	141	134	163	187	134	162
17 JUL	58	108	105	62	52	77	34	71
24 JUL	37	51	58	86	112	114	93	78
31 JUL	77	89	55	27	48	42	49	55
7 AUG	98	153	115	88	82	99	75	102
14 AUG	121	146	112	114	131	151	66	120
21 AUG	29	22	55	64	76	103	87	62
28 AUG	66	71	86	62	87	129	108	87
4 SEP	84	89	118	94	70	54	85	85
11 SEP	37	26	16	44	76	141	119	66
18 SEP	71	113	109	28	8	11	28	53
25 SEP	21	53	84	41	22	18	50	41
2 OCT	51	54	67	80	53	7	14	47
9 OCT	43	91	93	32	-8	36	33	46
16 OCT	8	12	59	123	48	40	80	53
23 OCT	50	35	27	39	22	1	7	26
30 OCT	11	3	20	10	17	30	23	16
6 NOV	110	89	37	2	27	19	4	41
13 NOV	-4	42	15	22	148	72	8	43
20 NOV	6	-6	-17	54	-28	36	38	12
27 NOV	2	34	-25	-40	-51	-74	-24	-25
4 DEC	-5	11	62	117	-5	-3	1	25
11 DEC	-6	-1	22	33	29	-38	-2	5
18 DEC	19	-2	8	35	21	-48	82	16
25 DEC	84	40	36	27	5	-8	27	30



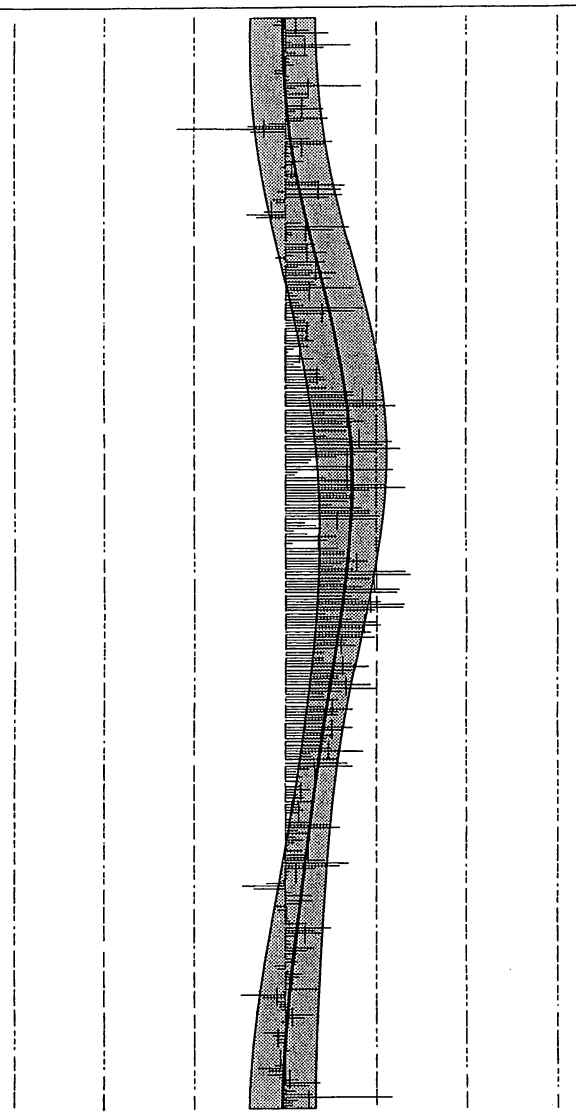
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	14	-15	-25	-1	55	95	43	24
8 JAN	2	12	142	84	-2	23	48	44
15 JAN	7	11	19	-3	-20	-20	8	0
22 JAN	6	61	165	20	6	48	53	51
29 JAN	-1	4	45	86	25	14	92	38
5 FEB	40	-35	-82	-238	-76	6	55	-47
12 FEB	103	90	30	8	21	9	-1	37
19 FEB	41	12	-6	10	27	21	5	16
26 FEB	71	133	124	-17	128	96	-26	73
5 MAR	-19	4	0	-45	-85	-62	1	-29
12 MAR	35	140	107	14	15	3	5	45
19 MAR	65	49	50	90	17	-22	87	48
26 MAR	57	27	59	112	54	101	65	68
2 APR	67	150	53	14	26	36	29	54
9 APR	42	170	150	91	29	44	55	83
16 APR	54	42	48	41	48	63	39	48
23 APR	55	18	7	36	63	33	17	33
30 APR	35	76	78	84	91	75	55	70
7 MAY	93	148	150	138	217	201	243	170
14 MAY	145	88	130	151	174	126	147	137
21 MAY	134	69	90	142	235	213	255	162
28 MAY	198	154	112	56	50	148	236	136
4 JUN	25	20	88	153	220	265	185	136
11 JUN	135	151	155	138	105	167	188	148
18 JUN	188	207	204	44	67	81	17	115
25 JUN	50	113	93	16	2	116	133	74
2 JUL	133	146	180	124	103	151	264	157
9 JUL	276	189	120	131	165	253	246	197
16 JUL	147	159	210	262	260	195	88	189
23 JUL	128	146	200	210	171	189	169	173
30 JUL	197	135	134	152	107	85	62	124
6 AUG	84	85	145	181	145	131	117	127
13 AUG	119	143	187	199	122	82	86	134
20 AUG	118	54	84	150	117	115	85	103
27 AUG	88	85	150	123	84	107	91	104
3 SEP	90	78	101	170	54	58	115	95
10 SEP	138	148	55	23	25	38	30	65
17 SEP	0	35	53	19	27	40	60	33
24 SEP	28	35	38	27	5	13	56	29
1 OCT	99	122	26	51	20	37	22	54
8 OCT	6	5	37	42	51	87	140	53
15 OCT	120	64	9	7	4	-7	-41	22
22 OCT	-94	-69	12	58	6	60	36	1
29 OCT	-18	-15	2	-1	6	10	46	4
5 NOV	101	65	79	24	1	10	13	42
12 NOV	63	45	25	-1	14	26	-22	22
19 NOV	-16	11	36	29	22	19	-1	14
26 NOV	71	-4	-97	-48	-19	-11	-12	-17
3 DEC	-6	5	59	42	-7	-2	7	14
10 DEC	2	-46	-27	-18	-15	-1	0	-15
17 DEC	9	1	-4	-2	-2	-20	-56	-11
24 DEC	-36	-38	-14	26	76	49	3	9
31 DEC	21	57	234	28	17	14	-1	53



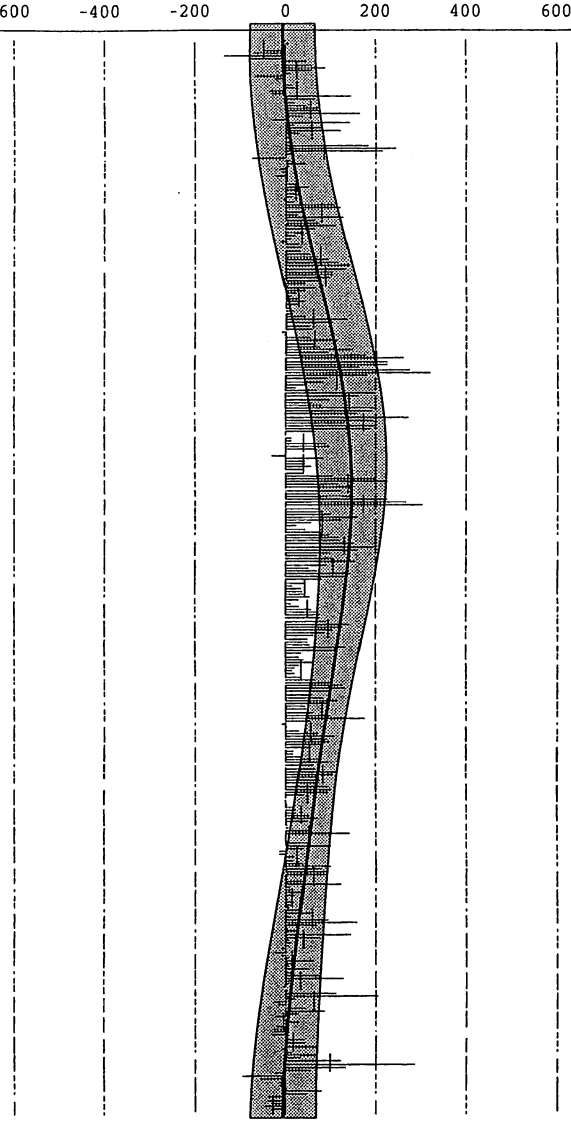
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	-2	8	-6	-46	-69	-134	-77	-46
14 JAN	49	61	89	61	12	-64	-21	27
21 JAN	2	13	22	-31	-26	145	67	27
28 JAN	21	46	75	74	164	37	-27	56
4 FEB	143	22	81	124	26	13	1	59
11 FEB	19	185	246	216	15	-74	9	88
18 FEB	46	6	-11	-8	-20	5	8	4
25 FEB	29	53	35	22	13	-5	17	23
4 MAR	109	124	41	30	128	65	78	82
11 MAR	114	65	40	21	12	-8	28	39
18 MAR	35	34	54	74	97	118	143	79
25 MAR	136	103	104	98	80	42	66	90
1 APR	46	25	13	29	44	31	11	28
8 APR	18	14	43	138	108	54	59	62
15 APR	-8	-2	53	119	62	76	150	64
22 APR	95	180	263	227	226	164	278	205
29 APR	320	182	92	85	46	25	68	117
6 MAY	201	162	99	61	82	197	192	142
13 MAY	160	275	196	132	201	189	63	174
20 MAY	2	12	12	91	96	63	5	40
27 MAY	-29	84	44	44	56	41	41	40
3 JUN	105	200	226	117	148	123	70	141
10 JUN	148	227	268	305	75	86	102	173
17 JUN	161	126	57	24	42	77	96	83
24 JUN	119	120	153	197	161	97	70	131
1 JUL	106	154	90	51	71	147	131	107
8 JUL	82	42	16	36	36	41	55	44
15 JUL	28	12	29	56	69	78	77	50
22 JUL	89	142	129	105	86	62	49	95
29 JUL	50	55	136	115	36	30	40	66
5 AUG	59	30	22	14	21	35	65	35
12 AUG	100	127	131	99	59	84	116	102
19 AUG	96	43	46	61	101	176	54	82
26 AUG	-8	6	29	71	111	93	98	57
2 SEP	79	58	19	18	38	81	95	55
9 SEP	64	69	116	108	74	76	78	83
16 SEP	96	103	97	42	2	-2	4	49
23 SEP	21	25	23	50	72	48	3	35
30 SEP	8	51	143	2	1	52	101	51
7 OCT	40	-13	-13	18	15	37	102	27
14 OCT	80	96	91	5	38	123	9	63
21 OCT	10	33	20	4	17	11	7	15
28 OCT	32	53	13	96	159	68	5	61
4 NOV	32	146	75	10	13	7	-7	39
11 NOV	-22	-7	8	62	12	7	52	16
18 NOV	17	75	131	10	7	-3	4	34
25 NOV	112	207	21	-24	-18	42	88	61
2 DEC	30	-21	4	30	-18	-24	-23	-3
9 DEC	-26	-1	41	43	68	-7	13	19
16 DEC	67	34	124	288	136	54	-22	97
23 DEC	-93	-56	-12	-14	3	80	45	-7
30 DEC	-37	-37	-29	-44	-30	-7	-5	-27



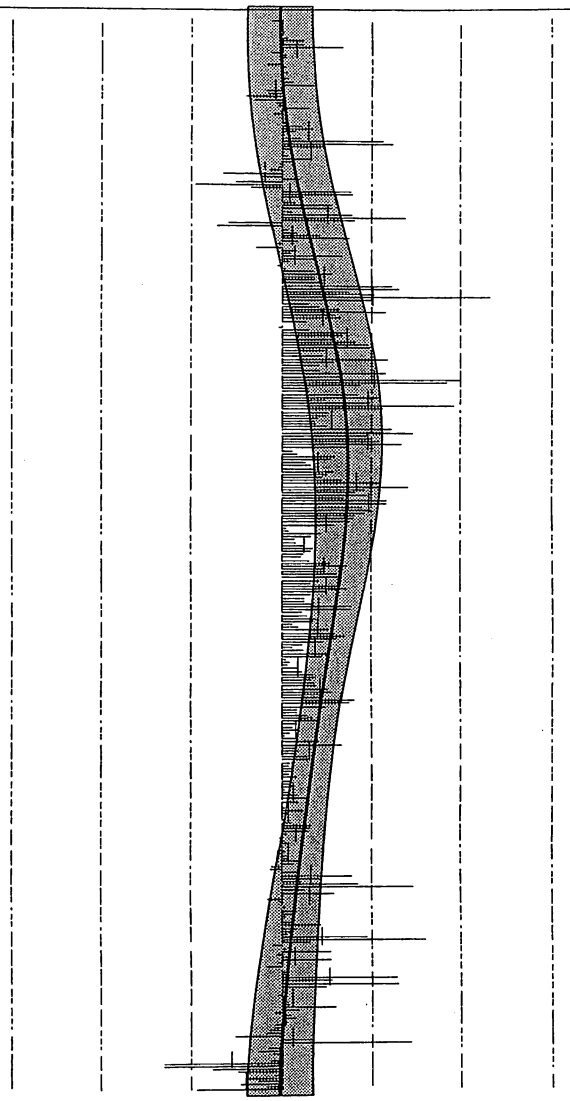
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-25	-7	-7	-8	5	-8	10	-6
13 JAN	45	46	135	3	-23	8	11	32
20 JAN	-3	-31	6	1	10	-3	12	-1
27 JAN	24	70	-4	-31	-30	-78	-60	-16
3 FEB	-13	-9	59	-4	-21	-1	1	2
10 FEB	7	42	70	28	3	43	227	60
17 FEB	248	92	18	5	14	65	23	66
24 FEB	-5	-8	-24	-129	-42	40	-100	-38
3 MAR	-189	-68	155	157	50	-2	31	19
10 MAR	112	114	21	158	278	162	-117	104
17 MAR	-144	13	32	86	153	34	-10	23
24 MAR	-57	32	18	136	71	19	-10	30
31 MAR	6	71	112	74	73	82	247	95
7 APR	263	150	207	466	205	59	81	204
14 APR	130	231	121	130	53	1	-6	94
21 APR	60	145	135	119	163	194	197	145
28 APR	95	41	91	238	115	86	45	101
5 MAY	84	232	134	397	372	176	59	208
12 MAY	63	169	213	95	195	388	226	193
19 MAY	103	98	81	74	76	101	245	111
26 MAY	292	190	202	218	269	150	23	192
2 JUN	34	121	111	55	64	73	119	82
9 JUN	102	91	133	218	283	184	164	168
16 JUN	190	141	234	236	180	198	184	195
23 JUN	166	159	151	118	10	15	88	101
30 JUN	65	30	31	51	72	66	49	52
7 JUL	42	63	111	147	99	92	122	97
14 JUL	127	86	66	125	143	97	66	101
21 JUL	51	51	75	156	155	45	57	84
28 JUL	76	71	24	37	107	122	139	82
4 AUG	125	93	45	22	50	111	92	77
11 AUG	10	19	12	35	47	72	77	39
18 AUG	68	74	80	103	112	91	92	88
25 AUG	163	153	99	36	34	58	70	88
1 SEP	86	32	23	37	18	8	29	33
8 SEP	86	134	34	37	33	56	62	63
15 SEP	19	14	26	28	17	36	18	22
22 SEP	22	23	7	12	34	56	34	27
29 SEP	0	8	46	17	4	6	20	14
6 OCT	65	63	59	14	-4	8	14	31
13 OCT	1	1	7	11	15	37	27	14
20 OCT	-22	-23	39	158	85	44	171	65
27 OCT	294	51	118	1	-30	-3	2	62
3 NOV	8	32	29	11	-3	19	86	26
10 NOV	33	18	13	191	322	62	-17	89
17 NOV	9	110	-9	19	110	-6	-33	29
24 NOV	2	19	10	256	112	260	98	108
1 DEC	0	11	-6	1	14	16	121	22
8 DEC	37	-12	19	28	10	-12	-15	8
15 DEC	-28	-33	-101	64	288	-5	-28	23
22 DEC	-53	-20	2	-25	-260	-259	-151	-109
29 DEC	-95	-14	-73	-51	-91	-35	-187	-78



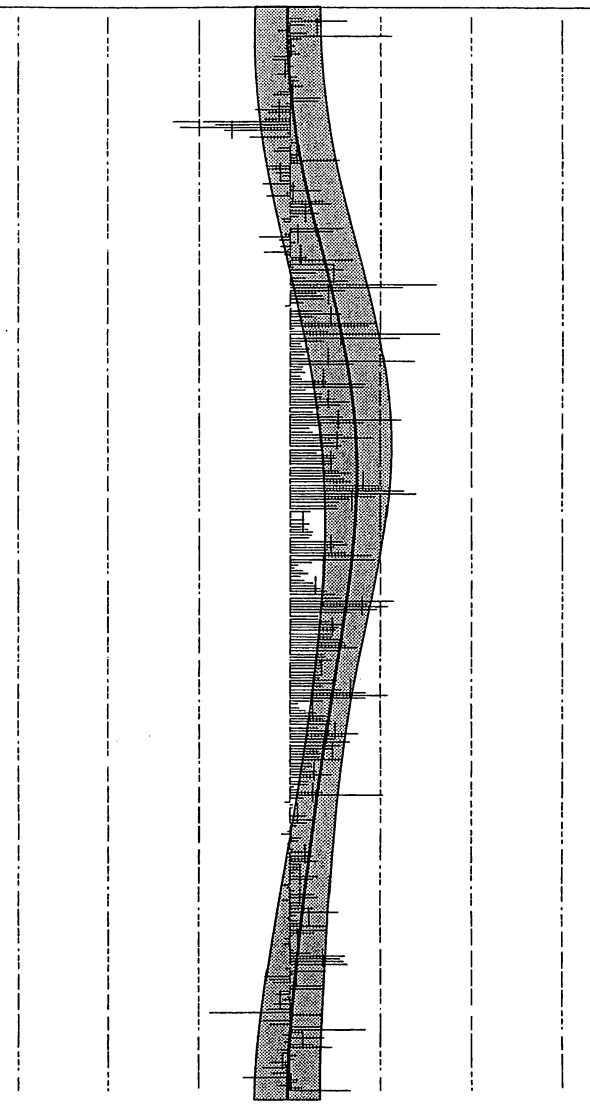
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	27	127	33	-7	-26	37	227	60
12 JAN	27	2	12	-11	12	23	-34	4
19 JAN	-38	-13	7	1	-14	-27	16	-10
26 JAN	22	-4	28	-3	-20	-35	65	8
2 FEB	59	-11	-39	-78	-50	0	-56	-25
9 FEB	-258	-162	-241	-142	-4	-88	5	-127
16 FEB	12	5	-24	-34	22	14	109	15
23 FEB	18	-45	-47	-30	-16	-3	-21	-20
1 MAR	-61	10	68	-11	-51	8	76	6
8 MAR	90	49	50	64	18	-19	-14	34
15 MAR	3	114	92	-9	-69	-23	11	17
22 MAR	-21	-4	-58	-13	34	140	96	25
29 MAR	7	117	58	4	35	125	323	95
5 APR	247	120	56	70	74	29	-10	84
12 APR	3	69	113	50	30	188	175	89
19 APR	11	83	333	243	74	24	27	114
26 APR	44	37	32	43	276	139	30	86
3 MAY	26	35	25	25	79	166	162	74
10 MAY	34	72	71	101	131	111	68	84
17 MAY	52	59	116	246	163	70	43	107
24 MAY	50	117	186	91	95	112	70	103
31 MAY	59	97	101	92	95	72	108	89
7 JUN	136	109	117	131	196	205	252	164
14 JUN	279	187	132	108	105	107	46	138
21 JUN	3	5	33	44	33	40	50	30
28 JUN	49	43	116	123	95	82	120	90
5 JUL	178	189	50	18	11	30	39	73
12 JUL	23	32	52	56	69	79	98	58
19 JUL	113	230	171	219	192	134	62	160
26 JUL	62	85	116	105	103	91	90	93
2 AUG	118	121	124	149	106	75	76	110
9 AUG	92	72	67	68	64	68	67	71
16 AUG	103	95	74	113	167	219	169	134
23 AUG	73	18	22	36	57	80	73	51
30 AUG	89	92	63	89	152	117	97	100
6 SEP	131	111	93	65	67	66	114	92
13 SEP	45	48	35	61	92	50	42	53
20 SEP	37	9	17	74	208	29	-10	52
27 SEP	6	6	2	-1	34	48	38	19
4 OCT	16	4	-3	-17	24	17	-4	5
11 OCT	1	10	48	50	40	63	26	34
18 OCT	27	21	9	63	50	0	-14	22
25 OCT	-3	9	55	63	-18	33	27	24
1 NOV	54	107	13	-3	17	23	82	42
8 NOV	83	56	6	-10	-1	-9	-2	17
15 NOV	11	46	121	111	117	127	-10	75
22 NOV	79	13	-54	-43	-39	71	78	15
29 NOV	-21	-28	-5	-16	-35	9	-49	-21
6 DEC	-176	73	2	-58	-42	70	167	5
13 DEC	29	-16	77	-10	51	93	-19	29
20 DEC	-15	18	10	-44	-16	-56	-10	-16
27 DEC	-41	-102	17	16	-20	25	135	4



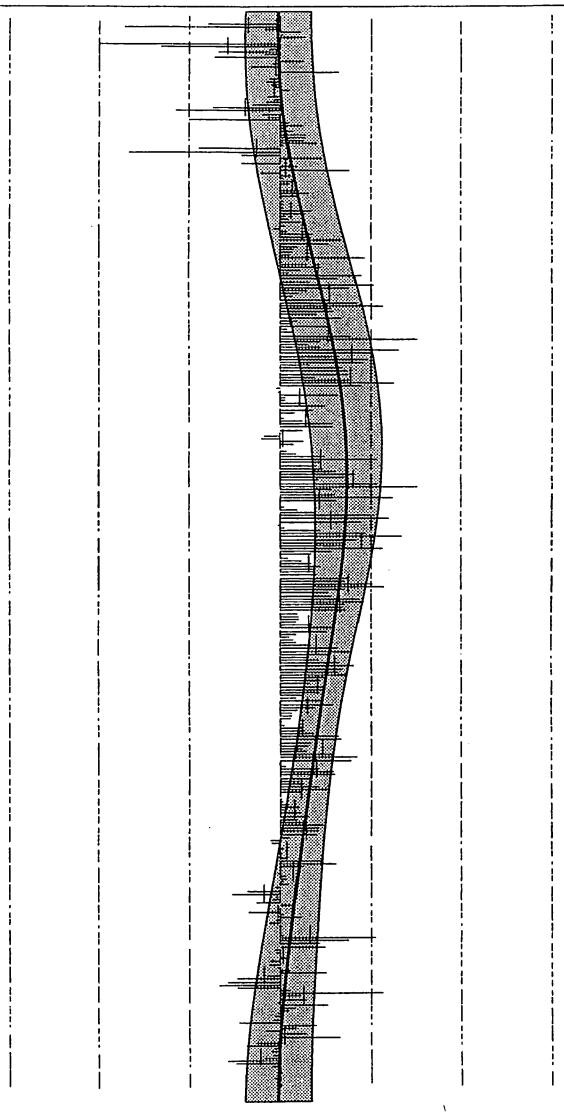
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-4	-13	-157	-343	-36	43	7	-72
10 JAN	54	-3	-399	-262	-23	-134	-33	-114
17 JAN	-143	48	-16	-61	-5	129	-10	-8
24 JAN	-23	-28	-18	-10	20	3	-27	-12
31 JAN	-13	-28	-60	-147	-229	-38	-26	-77
7 FEB	-198	18	51	12	27	55	55	3
14 FEB	52	78	8	-176	-332	-85	93	-52
21 FEB	0	-85	37	154	-42	20	8	13
28 FEB	23	20	-1	42	63	38	3	27
7 MAR	7	8	6	68	57	10	19	25
14 MAR	44	9	-12	19	72	69	137	48
21 MAR	108	38	29	27	20	187	4	59
28 MAR	60	92	44	18	179	127	66	84
4 APR	208	155	57	39	26	111	169	109
11 APR	226	113	119	81	135	39	25	105
18 APR	111	16	26	157	303	87	59	108
25 APR	91	261	198	131	194	183	66	160
2 MAY	137	148	152	78	154	252	181	157
9 MAY	-8	-5	129	12	13	57	98	42
16 MAY	70	33	1	9	48	116	115	56
23 MAY	49	-2	-35	-40	51	30	3	8
30 MAY	14	36	100	214	91	80	93	89
6 JUN	123	167	140	81	212	305	113	163
13 JUN	75	121	248	123	2	9	37	88
20 JUN	76	208	240	177	-4	10	86	113
27 JUN	189	268	169	139	144	228	111	178
4 JUL	69	18	45	68	86	73	76	62
11 JUL	80	148	142	206	230	143	108	151
18 JUL	113	175	185	144	137	142	37	133
25 JUL	41	40	35	65	122	102	36	63
1 AUG	21	31	34	68	126	158	108	78
8 AUG	64	85	128	162	137	126	146	121
15 AUG	101	87	65	93	100	88	49	83
22 AUG	36	94	115	78	38	26	27	59
29 AUG	23	5	10	48	54	74	129	49
5 SEP	135	68	59	47	57	119	171	94
12 SEP	156	-1	12	85	119	120	67	80
19 SEP	41	51	85	102	45	0	5	47
26 SEP	7	20	40	10	43	64	39	32
3 OCT	60	93	86	84	79	20	-22	57
10 OCT	-17	2	10	5	4	12	92	15
17 OCT	124	51	3	-4	14	16	10	30
24 OCT	18	-9	-71	-104	-10	-16	-52	-35
31 OCT	25	-4	-69	9	45	-8	-20	-3
7 NOV	0	-2	2	6	211	150	86	65
14 NOV	98	-11	-7	-1	18	-20	-25	7
21 NOV	-4	24	101	-26	-94	-113	-131	-35
28 NOV	-93	23	226	43	57	-6	105	51
5 DEC	36	22	-4	-9	-13	-91	78	3
12 DEC	35	-31	57	133	4	-48	-72	11
19 DEC	-13	-22	-14	-35	-112	-97	-18	-44
26 DEC	-5	3	2	-14	2	4	3	-1



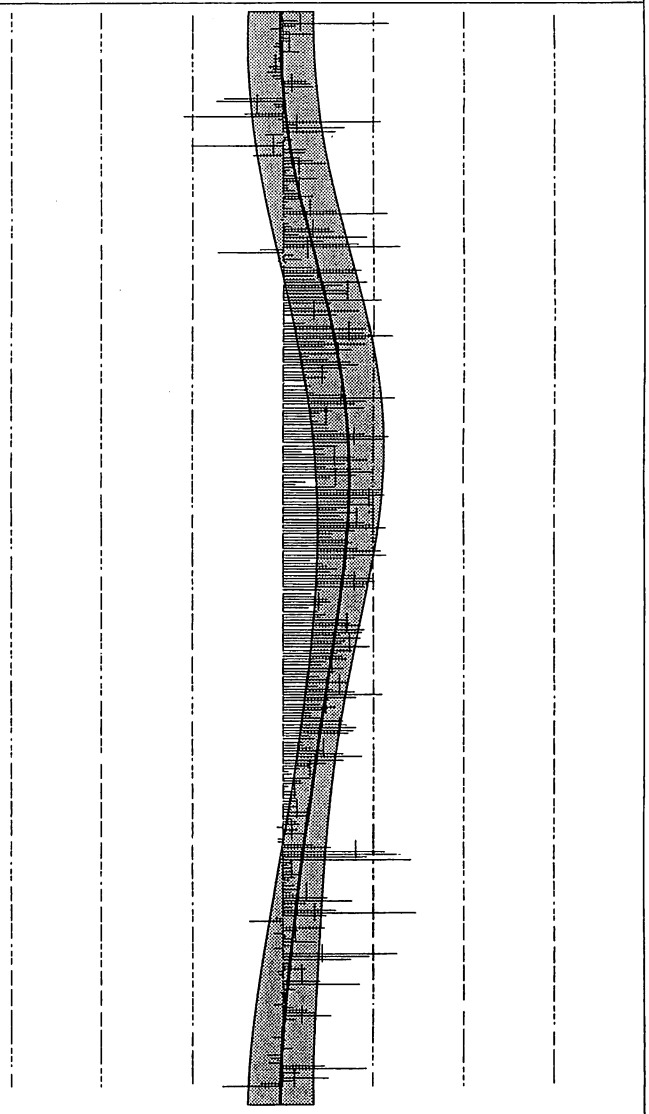
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-1	-3	33	235	29	-26	16	40
9 JAN	71	9	19	-16	-19	0	38	15
16 JAN	1	-21	-10	-3	-29	-21	-34	-17
23 JAN	-24	-15	53	60	67	-1	12	22
30 JAN	-1	-130	-145	-22	-17	4	-85	-56
6 FEB	-219	-11	217	29	137	117	-38	33
13 FEB	16	25	-13	-201	49	50	-66	-20
20 FEB	34	67	94	23	14	8	27	38
27 FEB	74	37	11	12	27	33	65	37
6 MAR	37	9	5	20	117	232	8	61
13 MAR	-5	14	17	103	112	34	187	66
20 MAR	87	169	261	-53	-143	25	41	55
27 MAR	10	2	61	173	158	67	72	77
3 APR	187	132	98	137	143	87	217	143
10 APR	108	15	67	167	117	2	5	69
17 APR	46	109	182	178	242	182	90	147
24 APR	184	91	150	128	57	101	150	123
1 MAY	166	142	99	50	95	51	3	86
8 MAY	59	50	65	144	249	184	160	130
15 MAY	181	107	80	71	60	77	99	96
22 MAY	101	120	182	234	221	142	121	160
29 MAY	90	43	93	160	189	138	95	115
5 JUN	176	198	163	104	51	29	114	119
12 JUN	220	216	228	191	157	200	148	194
19 JUN	120	167	126	135	183	200	228	166
26 JUN	161	111	108	144	153	143	169	141
3 JUL	219	229	163	61	88	100	122	140
10 JUL	103	163	198	204	191	181	84	160
17 JUL	62	71	101	106	87	57	77	80
24 JUL	94	85	145	150	175	183	176	144
31 JUL	126	173	140	129	194	155	121	148
7 AUG	131	141	96	86	135	116	57	109
14 AUG	80	100	142	76	111	160	221	127
21 AUG	161	104	83	115	85	64	64	97
28 AUG	83	135	143	164	157	147	57	127
4 SEP	69	45	45	65	91	134	176	89
11 SEP	134	96	58	37	13	20	60	59
18 SEP	40	43	14	5	17	30	29	25
25 SEP	29	18	32	17	60	51	21	32
2 OCT	32	37	-12	35	55	2	-9	20
9 OCT	-9	67	108	226	263	188	286	161
16 OCT	21	10	20	23	38	25	12	21
23 OCT	7	26	39	18	37	100	154	54
30 OCT	50	20	117	297	96	-16	-75	70
6 NOV	-3	92	34	-19	9	22	71	29
13 NOV	20	-18	4	255	194	150	17	89
20 NOV	20	49	-9	-7	-1	81	170	43
27 NOV	5	26	-3	-2	9	6	-19	3
4 DEC	23	57	75	106	29	3	5	43
11 DEC	5	7	1	-20	7	0	-5	-1
18 DEC	21	-3	-33	-23	-10	-29	92	2
25 DEC	187	38	7	101	21	-47	-131	25



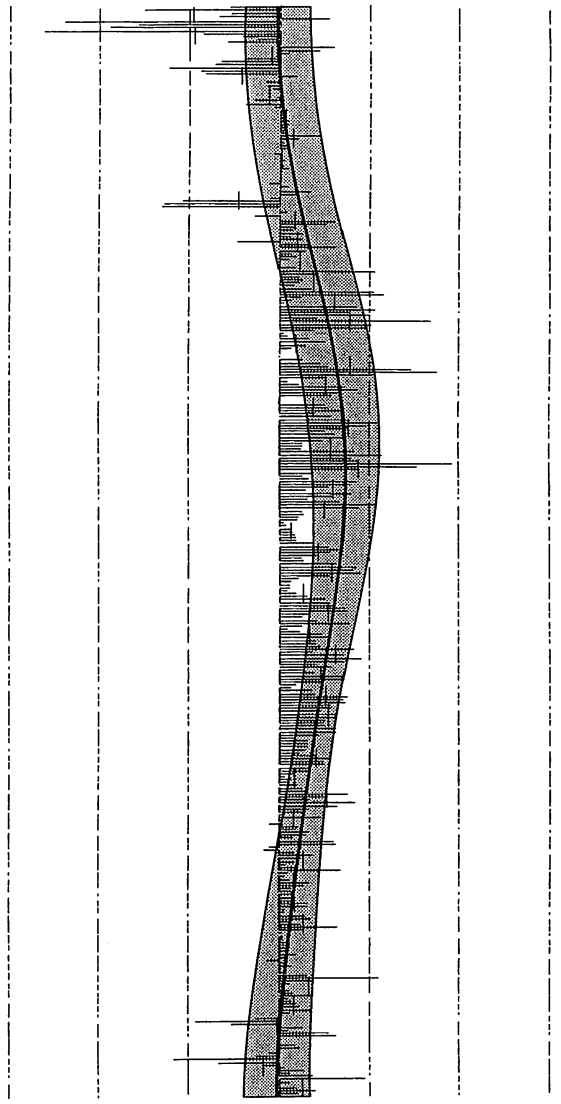
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 36N, 122W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-109	-298	-108	-134	110	-478	-312	-190
8 JAN	-378	-523	-168	-81	-49	-116	-7	-189
15 JAN	121	88	17	-10	-74	-129	-142	-19
22 JAN	-246	-173	-163	38	3	-29	-26	-85
29 JAN	-16	-3	1	-7	-57	-77	-10	-24
5 FEB	2	2	11	13	19	19	15	12
12 FEB	15	11	90	39	7	19	21	29
19 FEB	1	-10	4	10	3	11	19	5
26 FEB	3	0	4	-4	-21	18	1	0
5 MAR	69	40	-22	-213	-253	-259	2	-91
12 MAR	15	-54	1	123	104	34	30	36
19 MAR	52	24	51	-93	68	127	58	41
26 MAR	26	38	20	0	-4	36	213	47
2 APR	82	42	52	43	33	71	209	76
9 APR	231	50	28	11	170	213	158	123
16 APR	197	82	337	205	193	73	9	157
23 APR	18	65	102	59	27	-2	2	39
30 APR	-2	51	92	107	292	350	207	157
7 MAY	103	19	44	147	173	129	115	104
14 MAY	1	-2	100	109	139	80	115	77
21 MAY	150	218	194	154	102	124	147	155
28 MAY	95	51	50	48	168	228	161	114
4 JUN	174	388	307	180	71	52	66	177
11 JUN	170	157	109	61	160	119	64	120
18 JUN	134	213	177	52	53	43	41	102
25 JUN	10	16	23	29	35	38	38	27
2 JUL	74	110	129	113	81	48	56	87
9 JUL	126	171	162	179	112	44	26	117
16 JUL	25	24	19	38	64	103	114	55
23 JUL	127	146	153	65	51	82	154	111
30 JUL	51	18	47	95	109	81	82	69
6 AUG	89	167	74	143	182	143	84	126
13 AUG	114	52	81	140	140	94	38	94
20 AUG	28	70	80	152	143	147	116	105
27 AUG	114	93	127	130	105	99	102	110
3 SEP	128	126	88	36	62	63	62	80
10 SEP	58	44	81	116	99	102	68	81
17 SEP	67	34	14	26	20	40	52	36
24 SEP	63	152	103	69	168	131	66	107
1 OCT	57	12	93	5	-21	43	37	32
8 OCT	66	60	28	121	125	-21	-33	49
15 OCT	31	73	50	34	12	34	139	53
22 OCT	17	12	25	65	58	26	28	33
29 OCT	30	35	33	64	61	14	9	35
5 NOV	58	70	23	45	130	55	5	55
12 NOV	11	6	21	25	22	13	37	19
19 NOV	13	-27	10	26	3	11	60	14
26 NOV	220	70	23	12	21	33	72	64
3 DEC	19	25	38	43	71	24	-1	31
10 DEC	-51	-183	-105	50	17	109	126	-5
17 DEC	0	2	34	43	-1	-21	-49	1
24 DEC	-233	-131	-35	10	55	23	74	-34
31 DEC	192	22	-10	38	79	41	1	52



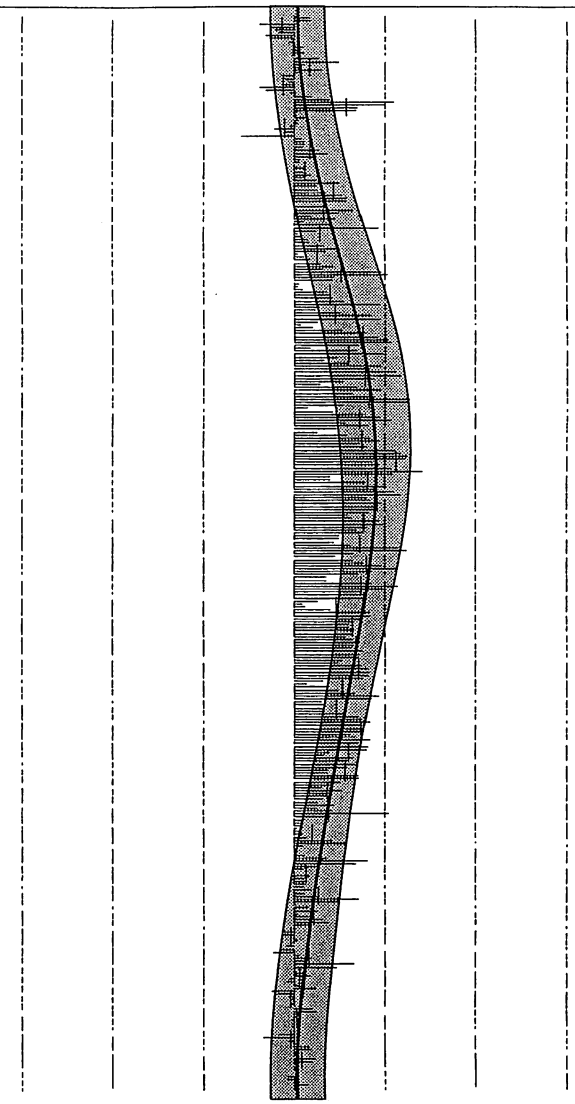
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1986 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	36	34	-77	-51	-41	-33	-62	-28
12 JAN	-55	-9	3	20	14	21	-5	-2
19 JAN	55	100	25	13	61	8	-25	34
26 JAN	-17	-9	-21	-78	-62	-8	39	-22
2 FEB	79	221	199	141	139	4	20	115
9 FEB	9	7	-7	-44	-18	-119	16	-22
16 FEB	20	23	18	53	74	49	14	36
23 FEB	11	-1	21	17	39	21	50	22
2 MAR	101	50	52	71	106	119	115	88
9 MAR	3	74	132	100	37	94	21	66
16 MAR	77	187	50	8	13	29	35	57
23 MAR	66	100	69	6	20	34	57	50
30 MAR	86	63	192	206	88	86	10	104
6 APR	6	18	71	76	85	109	190	79
13 APR	56	46	102	171	190	52	13	90
20 APR	41	108	159	185	206	214	143	151
27 APR	35	141	196	92	65	118	192	120
4 MAY	165	226	239	175	108	57	139	158
11 MAY	190	130	179	258	255	107	30	164
18 MAY	84	156	191	215	114	161	93	145
25 MAY	51	118	166	190	145	159	225	150
1 JUN	236	248	246	171	191	216	284	227
8 JUN	220	78	79	158	205	180	221	163
15 JUN	235	159	167	194	184	186	165	184
22 JUN	118	126	187	195	160	140	150	154
29 JUN	100	99	89	124	231	250	130	146
6 JUL	91	131	152	193	230	174	141	159
13 JUL	71	72	172	229	196	151	156	149
20 JUL	158	50	17	24	78	169	166	94
27 JUL	145	136	122	120	132	128	115	128
3 AUG	128	145	131	127	151	146	142	139
10 AUG	107	96	148	163	165	164	153	142
17 AUG	62	25	74	95	135	188	172	107
24 AUG	61	64	63	64	108	142	150	93
31 AUG	167	149	155	148	122	134	169	149
7 SEP	143	162	159	77	65	128	118	122
14 SEP	136	119	76	72	144	143	100	113
21 SEP	76	59	104	82	73	64	53	73
28 SEP	88	51	82	210	78	18	13	77
5 OCT	12	8	15	18	27	83	115	40
12 OCT	17	5	11	23	70	161	137	61
19 OCT	55	21	2	32	20	27	26	26
26 OCT	21	36	23	52	142	101	6	54
2 NOV	33	52	11	32	64	74	34	43
9 NOV	2	-24	-26	-3	11	-2	-14	-8
16 NOV	-30	-46	9	36	29	131	92	32
23 NOV	1	21	34	-11	-13	10	45	13
30 NOV	-50	-34	-9	-4	-4	5	40	-8
7 DEC	50	11	6	-5	-3	-5	0	8
14 DEC	1	-35	-68	-12	4	34	37	-6
21 DEC	8	10	46	40	5	4	5	17
28 DEC	0	-13	-16	13	31	5	7	4



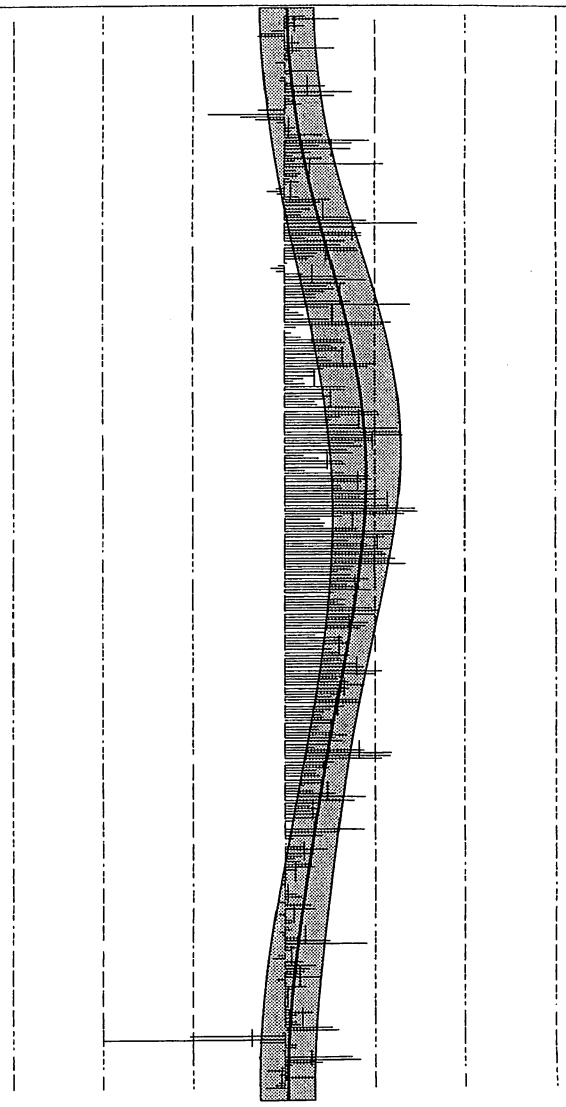
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	45	120	23	45	6	-27	-48	23
11 JAN	-56	-4	32	4	111	36	11	19
18 JAN	13	13	-18	-2	1	69	14	13
25 JAN	-7	-10	12	89	20	149	110	52
1 FEB	10	19	36	4	-58	-168	-97	-36
8 FEB	-64	-17	4	22	15	81	32	10
15 FEB	188	149	78	145	59	17	86	103
22 FEB	25	222	50	26	37	28	13	57
1 MAR	32	8	-18	-37	-17	31	103	15
8 MAR	83	71	56	41	38	141	181	87
15 MAR	295	160	85	171	170	46	131	151
22 MAR	122	159	162	73	68	53	6	92
29 MAR	-12	-30	-17	44	135	179	135	62
5 APR	94	111	90	70	70	145	280	123
12 APR	100	14	31	43	99	238	215	106
19 APR	27	0	16	38	125	136	104	64
26 APR	119	125	67	92	108	206	184	129
3 MAY	88	71	64	44	21	45	135	67
10 MAY	132	87	106	89	69	74	165	103
17 MAY	208	211	125	105	101	161	252	166
24 MAY	257	262	197	192	156	174	137	196
31 MAY	150	42	77	126	135	95	46	96
7 JUN	133	188	192	170	123	128	210	163
14 JUN	205	169	225	186	232	291	296	229
21 JUN	266	127	80	90	89	161	241	151
28 JUN	245	222	140	182	206	232	219	206
5 JUL	225	245	233	267	155	146	119	199
12 JUL	145	187	169	138	167	190	109	158
19 JUL	101	136	117	132	194	208	199	155
26 JUL	157	152	185	180	167	90	68	143
2 AUG	127	128	140	84	105	121	142	121
9 AUG	124	131	157	173	216	203	125	161
16 AUG	118	141	175	144	130	117	105	133
23 AUG	163	168	130	104	87	79	88	117
30 AUG	104	108	72	76	112	137	113	103
6 SEP	127	101	67	178	237	235	214	165
13 SEP	111	91	98	71	72	79	87	87
20 SEP	82	44	35	62	112	181	153	95
27 SEP	79	58	76	58	70	68	22	61
4 OCT	1	-1		175	120	81	19	66
11 OCT	4	44	96	65	37	22	32	43
18 OCT	61	66	27	8	-5	6	-1	23
25 OCT	-8	1	10	26	37	3	-11	8
1 NOV	60	69	1	-11	4	14	16	22
8 NOV	6	16	-9	-4	32	101	181	46
15 NOV	21	16	1	-12	-25	39	67	15
22 NOV	53	44	34	82	-15	4	47	36
29 NOV	17	6	10	10	1	-3	6	7
6 DEC	15	59	27	19	26	34	108	41
13 DEC	120	-4	-206	-400	-55	27	25	-70
20 DEC	-4	-1	150	169	86	16	-6	58
27 DEC	-35	-11	63	13	-13	-20	-41	-6

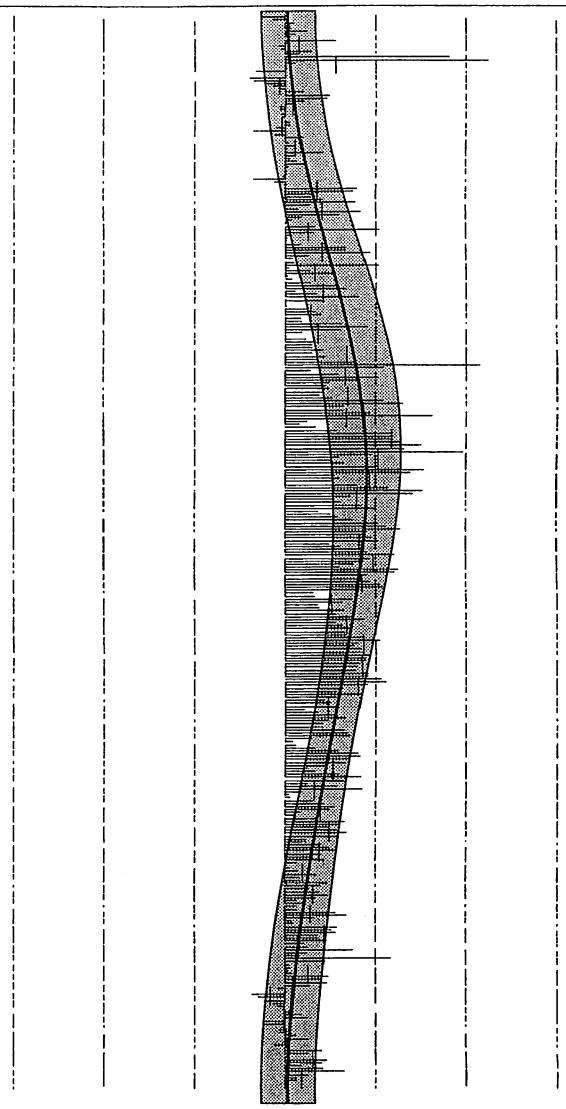


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-54	-25	20	12	15	49	23	6
10 JAN	15	113	17	-13	-8	60	33	31
17 JAN	365	453	24	-1	4	-64	3	112
24 JAN	-80	-72	-43	-27	-10	42	99	-13
31 JAN	93	44	23	-10	-12	-6	-7	18
7 FEB	0	9	11	-18	-72	-23	41	-7
14 FEB	1	10	23	8	84	20	14	22
21 FEB	26	42	10	4	5	-4	-72	2
28 FEB	-23	7	159	151	63	56	85	71
6 MAR	156	54	29	169	117	39	16	83
13 MAR	4	65	211	63	14	7	4	52
20 MAR	32	133	134	188	52	18	21	83
27 MAR	208	9	55	111	6	15	54	65
3 APR	117	135	23	71	162	80	1	84
10 APR	3	49	69	78	36	38	127	57
17 APR	182	124	36	5	45	66	60	74
24 APR	61	84	61	91	71	156	432	136
1 MAY	217	56	119	206	163	100	90	136
8 MAY	97	85	76	105	219	262	132	139
15 MAY	129	186	328	166	50	32	69	137
22 MAY	116	238	237	238	260	305	266	237
29 MAY	396	189	120	105	131	204	310	208
5 JUN	281	111	120	108	160	226	306	187
12 JUN	285	146	109	124	172	201	74	159
19 JUN	100	119	149	208	224	256	181	177
26 JUN	180	190	206	98	123	176	183	165
3 JUL	242	187	173	151	121	251	244	195
10 JUL	180	171	188	211	217	165	63	170
17 JUL	65	148	131	73	77	131	112	105
24 JUL	146	175	113	126	140	132	138	139
31 JUL	170	210	162	155	167	171	189	175
7 AUG	176	177	166	159	157	185	185	172
14 AUG	213	223	181	130	116	171	113	164
21 AUG	88	101	114	44	75	116	131	96
28 AUG	96	84	84	133	140	144	61	106
4 SEP	18	23	66	118	163	166	144	100
11 SEP	135	89	49	67	119	169	128	108
18 SEP	50	116	172	41	11	11	63	66
25 SEP	88	111	101	34	23	73	132	80
2 OCT	120	96	114	138	119	46	48	97
9 OCT	81	98	107	81	63	88	26	78
16 OCT	7	12	29	71	32	35	95	40
23 OCT	78	56	76	95	67	26	38	62
30 OCT	27	26	114	137	66	14	22	58
6 NOV	115	105	112	74	76	94	44	88
13 NOV	50	153	48	32	235	90	11	88
20 NOV	11	6	16	95	80	92	54	51
27 NOV	-15	2	-74	-61	-45	-25	-14	-33
4 DEC	-6	14	36	50	-50	-43	-8	-1
11 DEC	-10	-10	23	51	-5	-25	6	4
18 DEC	83	53	11	93	82	38	84	63
25 DEC	132	51	28	26	2	11	7	37



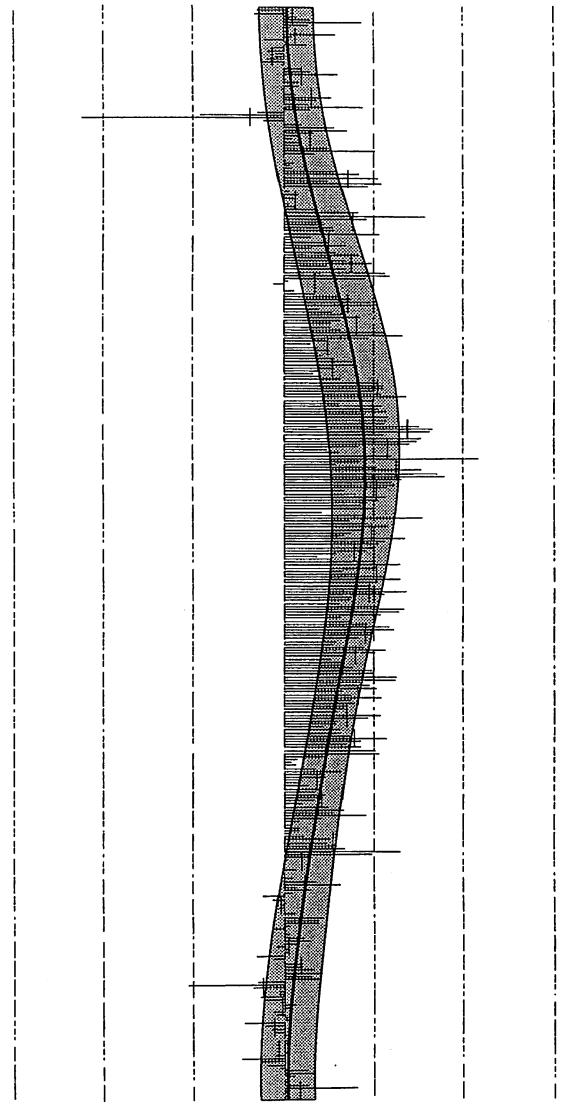
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-53	-57	-61	29	61	173	53	21
8 JAN	16	8	115	17	-39	11	52	26
15 JAN	-19	-31	-17	-18	-36	-45	-5	-24
22 JAN	38	61	122	-2	4	31	32	41
29 JAN	-4	-2	26	106	75	55	176	62
5 FEB	61	-57	-181	-445	-43	39	111	-74
12 FEB	140	68	33	17	37	36	97	61
19 FEB	205	69	-1	5	21	12	19	47
26 FEB	112	169	209	99	218	188	0	142
5 MAR	13	32	22	3	10	26	75	26
12 MAR	167	316	185	90	90	110	113	153
19 MAR	212	59	15	98	142	63	115	101
26 MAR	166	102	136	196	95	137	225	151
2 APR	238	181	10	-20	2	24	71	72
9 APR	128	150	194	194	79	108	140	142
16 APR	170	126	108	105	126	227	266	161
23 APR	190	93	61	75	101	78	88	98
30 APR	112	151	160	113	79	66	81	109
7 MAY	129	210	220	223	201	216	274	210
14 MAY	197	120	218	210	228	183	231	198
21 MAY	227	224	301	332	325	225	306	277
28 MAY	295	279	165	97	121	241	436	233
4 JUN	170	116	208	307	342	359	261	252
11 JUN	240	249	229	135	160	226	211	207
18 JUN	189	170	200	85	173	310	146	182
25 JUN	186	232	180	149	132	271	227	197
2 JUL	211	198	184	114	73	107	203	156
9 JUL	260	206	130	168	226	261	209	208
16 JUL	193	220	273	224	149	149	124	190
23 JUL	206	269	258	215	125	152	189	202
30 JUL	234	246	202	195	164	117	110	181
6 AUG	179	228	205	140	105	130	126	159
13 AUG	155	195	200	250	249	176	190	202
20 AUG	206	128	147	218	149	156	144	164
27 AUG	132	121	215	187	120	114	89	140
3 SEP	124	125	150	230	170	139	171	158
10 SEP	203	211	93	29	17	28	72	93
17 SEP	125	91	92	40	37	54	77	74
24 SEP	68	93	87	68	42	99	131	84
1 OCT	113	181	82	35	15	35	34	71
8 OCT	15	44	101	95	118	134	259	109
15 OCT	195	60	6	-3	1	28	2	41
22 OCT	1	20	71	127	28	60	18	46
29 OCT	-47	-24	5	-6	-10	2	23	-8
5 NOV	86	75	77	11	-17	4	14	36
12 NOV	46	56	28	-16	11	6	-60	10
19 NOV	-21	-1	40	41	66	84	60	38
26 NOV	82	-57	-209	-68	-11	-12	-51	-46
3 DEC	-44	-6	27	9	-24	-16	16	-5
10 DEC	17	-89	-41	-25	-22	4	2	-22
17 DEC	10	12	-2	2	8	-19	-92	-12
24 DEC	-48	-36	-6	52	67	24	0	7
31 DEC	6	54	163	5	-3	11	3	34



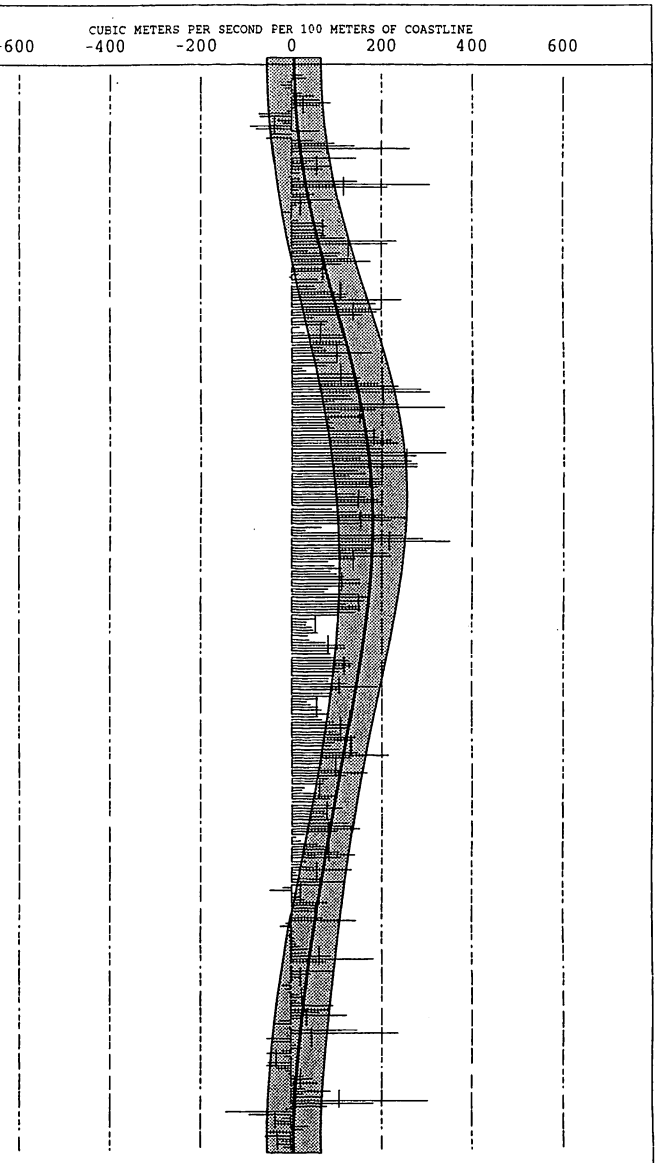
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	24	32	-7	-21	-12	4	24	6
14 JAN	49	62	89	63	10	-10	-72	27
21 JAN	-67	-30	-19	-89	-78	62	-43	-38
28 JAN	-53	49	95	140	262	68	1	80
4 FEB	143	48	36	91	72	19	-4	58
11 FEB	19	146	310	215	16	51	42	114
18 FEB	94	45	14	2	-15	-1	-2	20
25 FEB	17	72	80	66	70	80	117	72
4 MAR	235	216	60	39	107	102	132	127
11 MAR	178	111	77	66	17	-5	61	72
18 MAR	72	53	53	98	124	122	247	110
25 MAR	188	108	198	191	156	50	79	139
1 APR	73	18	1	28	113	118	113	66
8 APR	123	69	77	176	109	60	101	102
15 APR	76	24	31	144	152	147	191	109
22 APR	238	289	308	128	131	96	241	204
29 APR	340	188	108	156	84	89	86	150
6 MAY	93	184	167	194	224	236	176	182
13 MAY	200	344	275	155	264	279	278	257
20 MAY	145	164	127	194	201	201	192	175
27 MAY	97	141	162	191	204	149	91	148
3 JUN	144	206	255	222	149	67	32	154
10 JUN	106	248	292	354	178	185	165	218
17 JUN	216	225	141	82	96	112	88	137
24 JUN	100	118	151	151	117	82	74	113
1 JUL	147	172	160	122	152	151	141	149
8 JUL	104	53	34	33	47	49	59	54
15 JUL	37	39	78	117	120	86	89	81
22 JUL	100	127	136	130	119	108	97	117
29 JUL	82	81	123	190	104	86	89	108
5 AUG	60	36	44	61	67	80	60	58
12 AUG	68	97	129	125	98	107	140	109
19 AUG	136	97	87	108	147	215	132	131
26 AUG	69	69	66	107	168	120	83	97
2 SEP	71	70	31	24	56	98	86	62
9 SEP	55	88	112	72	76	71	85	80
16 SEP	127	139	150	102	28	9	21	82
23 SEP	58	73	75	106	139	110	31	85
30 SEP	17	49	135	9	12	65	119	58
7 OCT	71	-17	-46	13	19	30	81	21
14 OCT	60	58	54	5	70	144	-10	54
21 OCT	-25	3	6	-4	8	8	11	1
28 OCT	21	37	33	89	182	78	0	63
4 NOV	5	96	44	17	4	-6	-17	20
11 NOV	-9	-4	17	30	13	27	94	24
18 NOV	82	62	124	26	-22	-34	-1	34
25 NOV	145	237	-8	-55	-38	10	23	45
2 DEC	-18	-55	-12	-5	-53	-53	-31	-32
9 DEC	-11	-3	25	46	59	5	29	21
16 DEC	88	27	70	304	183	79	-11	106
23 DEC	-143	-93	-17	-29	-31	38	28	-35
30 DEC	-51	-57	-27	-22	-28	-17	0	-29



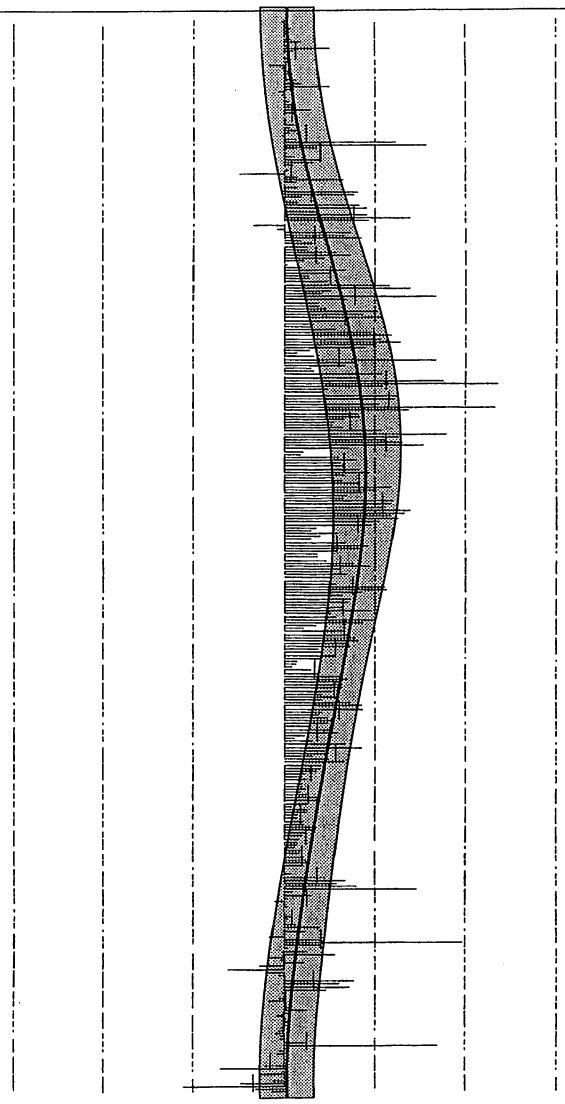
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	-3	11	16	11	5	2	14	8
13 JAN	38	13	98	21	0	3	8	26
20 JAN	12	-33	-6	10	20	4	26	5
27 JAN	37	98	15	-14	-4	4	9	21
3 FEB	22	27	57	21	1	3	5	19
10 FEB	20	13	34	12	-5	26	246	49
17 FEB	314	72	-2	7	23	76	66	79
24 FEB	18	2	7	-97	29	129	26	16
3 MAR	-1	29	162	153	36	1	33	59
10 MAR	166	183	76	181	279	189	2	153
17 MAR	-68	-15	147	135	172	38	60	67
24 MAR	51	52	115	146	88	47	6	72
31 MAR	42	134	98	56	57	93	232	102
7 APR	280	101	86	337	137	76	78	156
14 APR	90	208	173	216	133	66	63	136
21 APR	113	189	236	215	257	204	178	199
28 APR	56	29	66	339	159	136	59	121
5 MAY	64	216	161	355	474	218	96	226
12 MAY	88	249	243	93	211	468	277	233
19 MAY	161	165	133	111	105	128	216	146
26 MAY	361	250	227	262	309	142	42	228
2 JUN	39	120	159	123	135	167	187	133
9 JUN	134	111	128	169	236	203	175	165
16 JUN	137	132	241	239	228	278	265	217
23 JUN	234	252	209	194	71	60	119	163
30 JUN	81	60	135	186	166	114	73	116
7 JUL	74	94	153	188	124	101	139	125
14 JUL	105	99	112	224	226	171	129	152
21 JUL	146	140	93	129	192	101	114	131
28 JUL	195	173	72	43	133	143	158	131
4 AUG	163	140	145	75	82	110	79	113
11 AUG	28	27	19	60	73	127	138	67
18 AUG	124	127	127	104	83	121	84	110
25 AUG	143	170	172	85	77	96	108	121
1 SEP	97	61	107	119	46	23	62	74
8 SEP	135	170	90	95	63	99	132	112
15 SEP	83	79	72	46	41	51	41	59
22 SEP	42	49	38	52	75	78	53	55
29 SEP	19	51	53	30	28	43	45	38
6 OCT	73	72	52	43	35	30	29	47
13 OCT	23	37	36	44	49	53	42	41
20 OCT	2	-2	14	91	136	116	160	74
27 OCT	292	22	60	7	-21	1	7	53
3 NOV	0	3	14	11	2	26	79	19
10 NOV	47	-4	-33	83	395	80	8	82
17 NOV	52	113	-32	-7	42	-54	-125	-2
24 NOV	-40	-10	2	154	122	144	93	66
1 DEC	-4	4	-9	-33	5	18	52	5
8 DEC	9	-18	3	7	4	-6	-11	-2
15 DEC	-17	-7	-10	51	341	9	-11	51
22 DEC	-15	-3	8	-1	-43	-140	-3	-28
29 DEC	-53	0	-23	-96	-220	-63	-26	-68



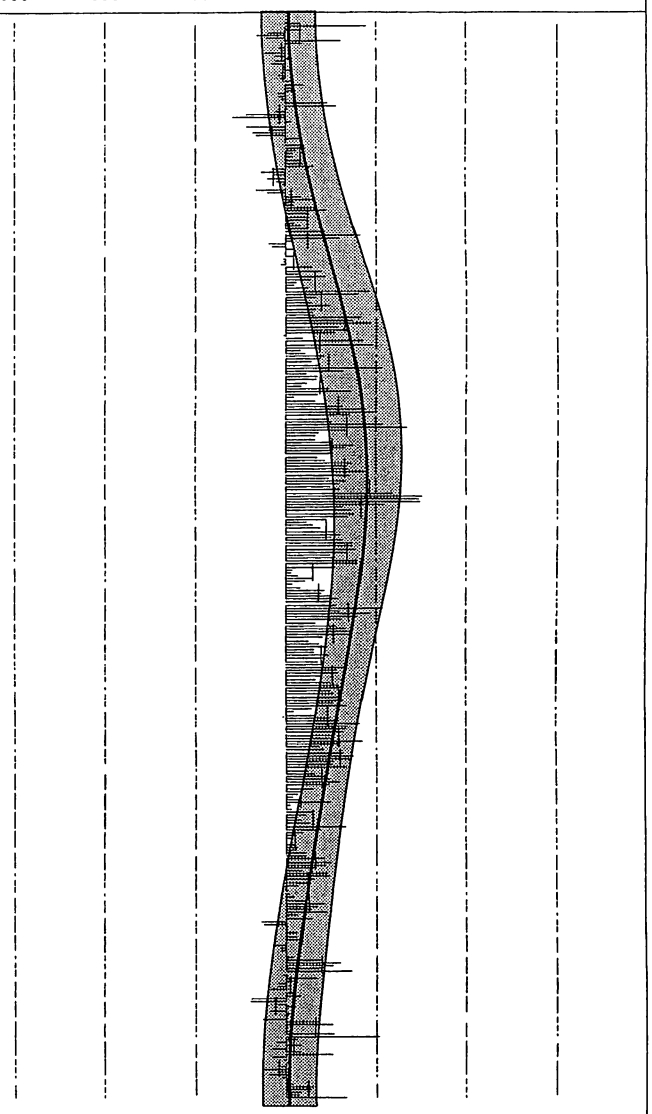
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	28	180	35	-37	-62	-39	124	33
12 JAN	37	-12	-5	-43	-21	16	-21	-7
19 JAN	-28	-3	13	-8	-14	-11	15	-5
26 JAN	37	12	23	-15	-12	-7	93	19
2 FEB	111	3	-20	-87	-117	12	2	-14
9 FEB	-89	-37	-74	-66	30	-1	40	-28
16 FEB	43	23	17	16	35	38	59	33
23 FEB	-29	-55	-27	-40	-22	-6	1	-25
1 MAR	-64	-40	35	59	17	19	68	13
8 MAR	89	51	54	50	21	36	47	49
15 MAR	89	164	120	16	-36	-29	22	49
22 MAR	-1	16	-4	-6	-11	58	81	19
29 MAR	32	87	55	24	19	49	189	65
5 APR	161	68	46	57	97	66	60	79
12 APR	65	165	150	188	118	138	107	133
19 APR	-5	37	171	193	72	33	43	78
26 APR	85	77	56	71	213	130	45	97
3 MAY	71	69	46	34	93	146	71	76
10 MAY	18	66	92	127	180	196	143	117
17 MAY	95	103	214	271	133	73	66	136
24 MAY	66	102	152	134	98	99	71	103
31 MAY	87	145	138	141	176	143	96	132
7 JUN	135	118	100	122	239	303	295	187
14 JUN	300	222	127	145	155	138	89	168
21 JUN	45	61	76	106	120	102	126	91
28 JUN	149	151	156	135	100	111	159	137
5 JUL	159	109	17	12	25	60	43	61
12 JUL	15	31	87	80	100	115	96	75
19 JUL	113	215	119	188	160	127	65	141
26 JUL	113	135	148	145	83	51	73	107
2 AUG	94	63	63	93	85	71	86	79
9 AUG	136	113	115	76	66	99	115	103
16 AUG	128	99	107	122	127	104	135	117
23 AUG	58	17	65	99	118	165	136	94
30 AUG	132	126	103	106	172	122	74	119
6 SEP	84	127	152	141	108	106	135	122
13 SEP	48	63	84	95	117	95	61	80
20 SEP	34	26	16	32	98	9	12	32
27 SEP	59	42	22	32	53	133	77	60
4 OCT	34	23	16	0	21	26	23	20
11 OCT	43	43	84	100	87	67	36	66
18 OCT	90	96	64	52	28	-1	4	47
25 OCT	6	18	43	83	68	58	90	52
1 NOV	26	56	-55	-47	6	1	24	1
8 NOV	24	29	3	-29	-12	-9	2	1
15 NOV	19	76	120	105	84	147	-5	78
22 NOV	69	22	-15	-17	-35	21	32	11
29 NOV	-78	-79	-16	25	-36	11	4	-24
6 DEC	-53	72	105	4	10	108	208	65
13 DEC	27	-22	36	-29	32	105	-30	17
20 DEC	-3	5	-11	-50	-9	-38	-6	-16
27 DEC	4	17	59	54	36	31	136	48



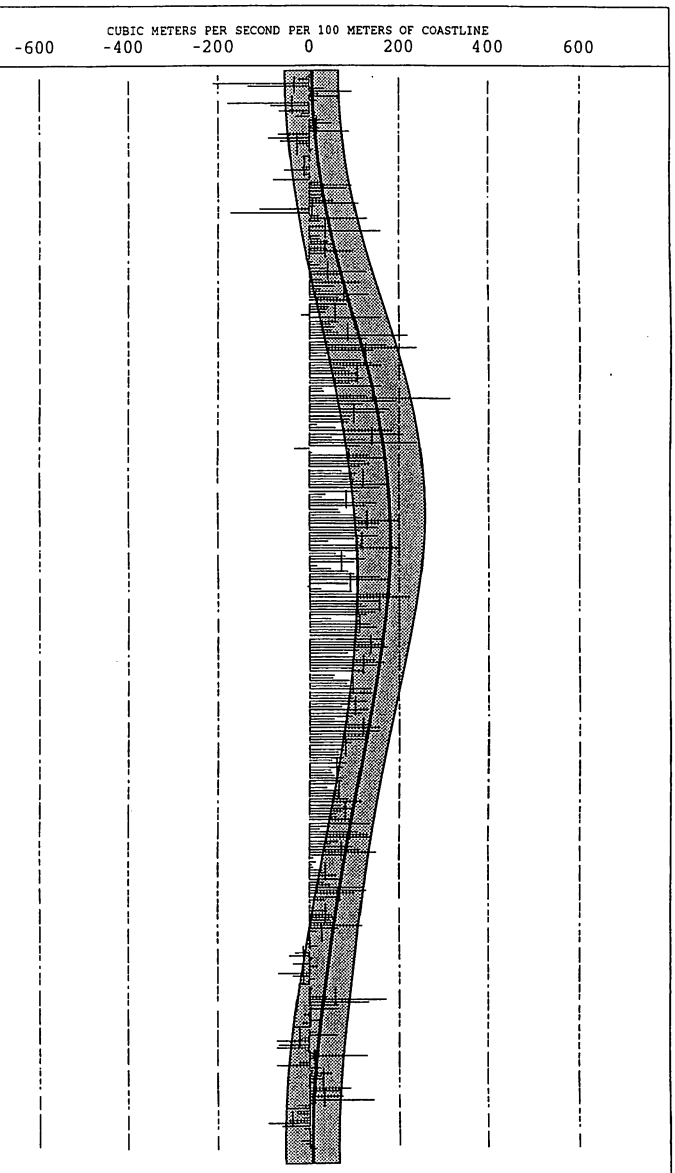
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-4	-25	-210	-134	34	96	23	-31
10 JAN	68	19	-181	-85	-1	-67	-14	-37
17 JAN	-29	35	53	17	24	90	-68	17
24 JAN	-91	-62	-23	-6	6	6	-12	-26
31 JAN	4	0	0	-14	-56	-12	4	-11
7 FEB	-80	20	96	81	32	33	28	30
14 FEB	58	110	13	-111	-174	22	129	7
21 FEB	24	0	39	159	2	23	22	38
28 FEB	46	54	39	98	34	-2	-7	37
7 MAR	8	24	38	128	72	7	30	44
14 MAR	116	58	27	57	132	67	95	79
21 MAR	86	42	41	38	-18	160	65	59
28 MAR	47	58	50	66	222	129	42	88
4 APR	172	241	144	45	37	114	140	127
11 APR	159	79	92	104	118	105	89	106
18 APR	159	30	33	126	316	193	118	139
25 APR	67	176	166	94	92	90	17	100
2 MAY	61	182	211	52	124	241	112	140
9 MAY	-33	6	135	165	124	133	111	92
16 MAY	74	104	95	103	140	177	156	121
23 MAY	108	37	30	79	147	128	65	85
30 MAY	70	103	116	202	154	152	112	130
6 JUN	104	153	102	42	116	204	104	118
13 JUN	60	83	123	101	19	49	87	75
20 JUN	101	158	179	88	-3	26	96	92
27 JUN	183	223	153	115	126	160	145	158
4 JUL	126	50	111	136	149	110	111	113
11 JUL	110	168	143	167	173	110	87	137
18 JUL	101	147	166	148	100	122	57	120
25 JUL	55	91	84	89	137	142	89	98
1 AUG	99	127	88	73	130	114	97	104
8 AUG	58	88	139	157	155	126	132	122
15 AUG	127	92	80	75	66	67	75	83
22 AUG	51	84	78	48	53	57	77	64
29 AUG	74	58	40	69	69	70	87	67
5 SEP	117	71	97	76	59	63	92	82
12 SEP	134	46	25	111	130	134	65	92
19 SEP	48	99	112	149	77	11	16	73
26 SEP	8	11	30	34	63	76	34	36
3 OCT	49	121	126	100	70	35	5	72
10 OCT	4	12	41	51	57	45	60	38
17 OCT	117	66	17	1	3	4	6	30
24 OCT	19	5	-30	-44	9	-2	-36	-11
31 OCT	21	5	-68	-35	12	-6	-23	-14
7 NOV	6	5	6	41	170	133	65	61
14 NOV	65	5	-12	4	25	-14	-34	5
21 NOV	-2	16	62	-16	-70	-65	-72	-21
28 NOV	-8	18	129	15	-21	-71	26	12
5 DEC	10	50	26	28	17	-1	92	32
12 DEC	72	8	78	144	16	-27	-52	34
19 DEC	-27	-26	-14	-42	-91	-59	-12	-39
26 DEC	-1	10	9	-19	-10	8	15	2



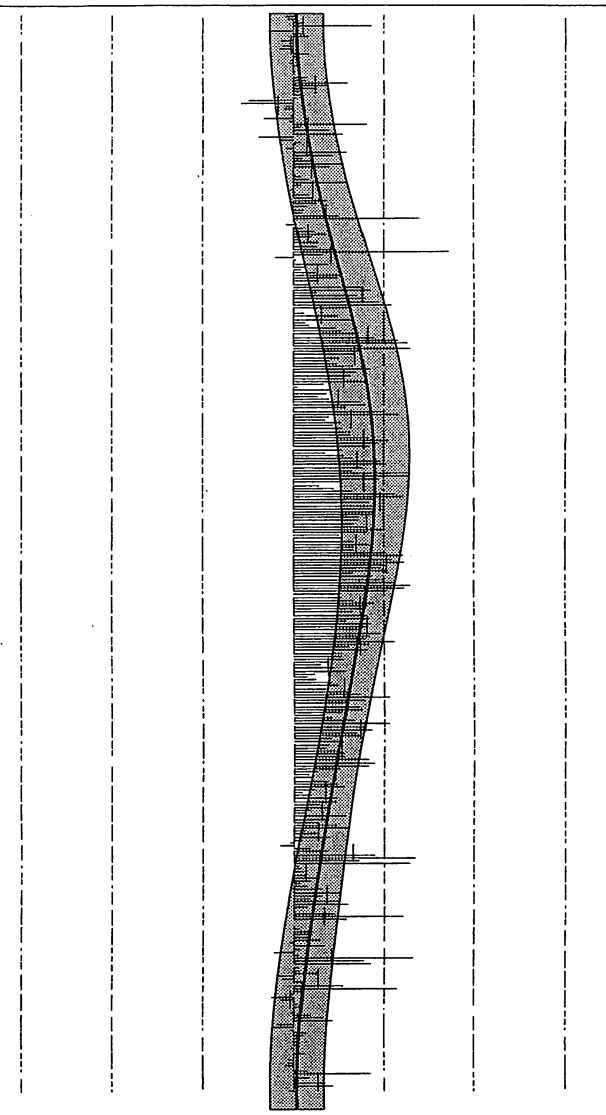
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	-14	-14	22	174	1	-49	23	21
9 JAN	32	-25	-8	-23	-30	-2	35	-3
16 JAN	10	-7	-7	6	-2	5	5	1
23 JAN	30	26	120	80	51	10	22	48
30 JAN	7	-99	-115	-15	-20	1	-8	-36
6 FEB	-67	-8	163	15	79	111	-76	31
13 FEB	-30	13	0	-16	119	88	21	28
20 FEB	39	113	80	-2	5	18	34	41
27 FEB	121	16	-4	8	36	44	77	43
6 MAR	52	29	24	17	102	283	6	73
13 MAR	-15	22	46	72	41	15	53	33
20 MAR	52	96	347	65	-41	7	76	86
27 MAR	23	16	49	104	97	56	34	54
3 APR	150	172	53	142	159	190	218	155
10 APR	123	5	24	98	127	28	35	63
17 APR	92	106	145	180	231	254	155	166
24 APR	260	146	138	102	80	96	132	136
1 MAY	170	139	125	109	162	69	9	112
8 MAY	83	73	55	78	149	161	116	102
15 MAY	202	236	81	71	108	89	110	128
22 MAY	128	127	166	209	187	169	107	156
29 MAY	70	112	132	194	206	153	130	142
5 JUN	260	255	190	110	58	90	133	156
12 JUN	225	242	182	169	178	173	181	193
19 JUN	179	145	144	134	163	202	164	162
26 JUN	102	109	135	168	135	134	208	142
3 JUL	242	218	246	202	192	211	132	206
10 JUL	173	202	228	260	247	207	102	202
17 JUL	108	133	178	166	155	132	164	148
24 JUL	168	117	170	166	151	194	167	162
31 JUL	159	222	165	123	162	106	107	149
7 AUG	110	81	60	91	115	45	28	76
14 AUG	49	83	96	72	125	147	214	112
21 AUG	158	121	145	152	107	65	81	118
28 AUG	135	213	157	173	140	145	83	149
4 SEP	111	76	70	105	113	113	165	108
11 SEP	179	165	104	51	32	43	77	93
18 SEP	96	114	45	18	37	95	96	71
25 SEP	56	74	36	26	116	78	54	63
2 OCT	96	125	24	53	79	18	-7	55
9 OCT	-29	34	76	179	270	145	259	133
16 OCT	13	16	21	27	54	37	13	26
23 OCT	30	63	101	63	39	98	120	73
30 OCT	30	0	89	242	117	1	2	69
6 NOV	13	44	40	29	59	-8	69	35
13 NOV	13	-43	14	265	157	170	13	84
20 NOV	14	52	-31	-23	24	110	231	54
27 NOV	17	-8	-49	-30	11	15	2	-6
4 DEC	-3	38	66	87	-36	-45	-7	14
11 DEC	27	20	15	7	10	-4	2	11
18 DEC	24	2	-9	-12	-16	1	29	3
25 DEC	171	36	13	72	88	6	-7	54



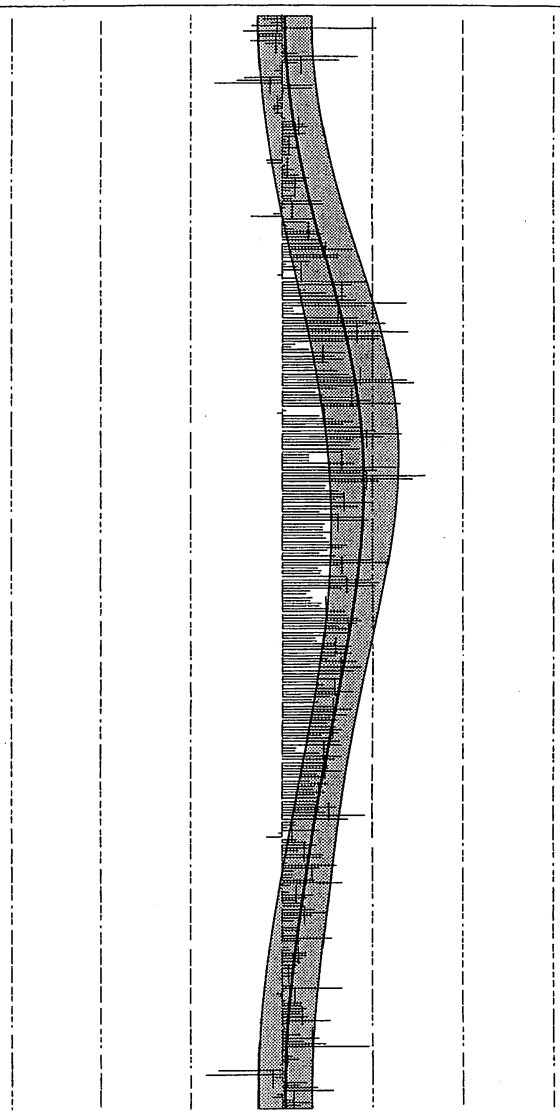
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 33N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-4	-44	-24	-64	209	-84	-50	-9
8 JAN	-49	-68	-39	8	13	10	34	-13
15 JAN	169	127	34	-5	-4	-16	-4	43
22 JAN	-82	-99	-149	69	64	3	3	-27
29 JAN	-5	-6	-5	-17	-22	-16	-3	-10
5 FEB	7	26	52	58	37	52	34	38
12 FEB	6	12	21	37	9	22	-2	15
19 FEB	-35	-33	9	26	16	37	59	11
26 FEB	47	33	40	21	3	30	23	28
5 MAR	89	90	8	-3	-18	-68	70	24
12 MAR	53	13	27	76	92	64	85	58
19 MAR	87	97	158	25	125	123	61	97
26 MAR	9	35	41	5	-11	29	188	42
2 APR	153	37	54	96	142	163	277	132
9 APR	186	23	27	48	167	192	230	125
16 APR	176	106	279	218	215	138	29	166
23 APR	21	61	137	113	134	101	70	91
30 APR	69	120	145	155	277	293	158	174
7 MAY	117	73	91	161	196	264	170	153
14 MAY	9	-9	83	112	157	134	170	94
21 MAY	206	264	223	156	148	151	170	188
28 MAY	131	60	59	60	157	253	209	133
4 JUN	179	318	292	216	97	93	123	188
11 JUN	136	139	118	202	165	116	83	137
18 JUN	121	179	191	92	91	91	108	125
25 JUN	91	96	105	143	133	99	81	107
2 JUL	118	203	232	126	78	87	86	133
9 JUL	143	197	216	208	129	63	55	144
16 JUL	68	63	87	83	101	136	143	97
23 JUL	165	175	163	124	146	149	100	146
30 JUL	73	75	116	151	139	153	115	117
6 AUG	99	165	83	178	158	136	81	128
13 AUG	128	78	90	119	156	128	104	114
20 AUG	65	83	115	155	122	144	104	113
27 AUG	122	98	118	133	125	89	103	112
3 SEP	126	130	32	28	83	133	115	92
10 SEP	96	102	104	131	76	97	61	95
17 SEP	101	75	70	94	73	82	81	82
24 SEP	72	118	85	95	184	145	28	104
1 OCT	31	13	86	-6	-35	32	54	25
8 OCT	76	57	37	89	91	0	14	52
15 OCT	121	81	25	22	24	74	132	69
22 OCT	18	-5	15	70	58	35	40	33
29 OCT	55	72	98	66	38	28	2	51
5 NOV	34	42	3	34	110	41	0	38
12 NOV	13	17	56	57	45	40	31	37
19 NOV	25	2	31	18	-6	2	28	14
26 NOV	132	4	-14	-7	7	47	44	30
3 DEC	55	43	40	56	106	19	4	46
10 DEC	9	7	40	82	49	95	194	68
17 DEC	12	0	23	37	18	-5	-1	12
24 DEC	-141	-167	-19	1	53	41	80	-22
31 DEC	112	-12	-21	23	59	41	-9	27

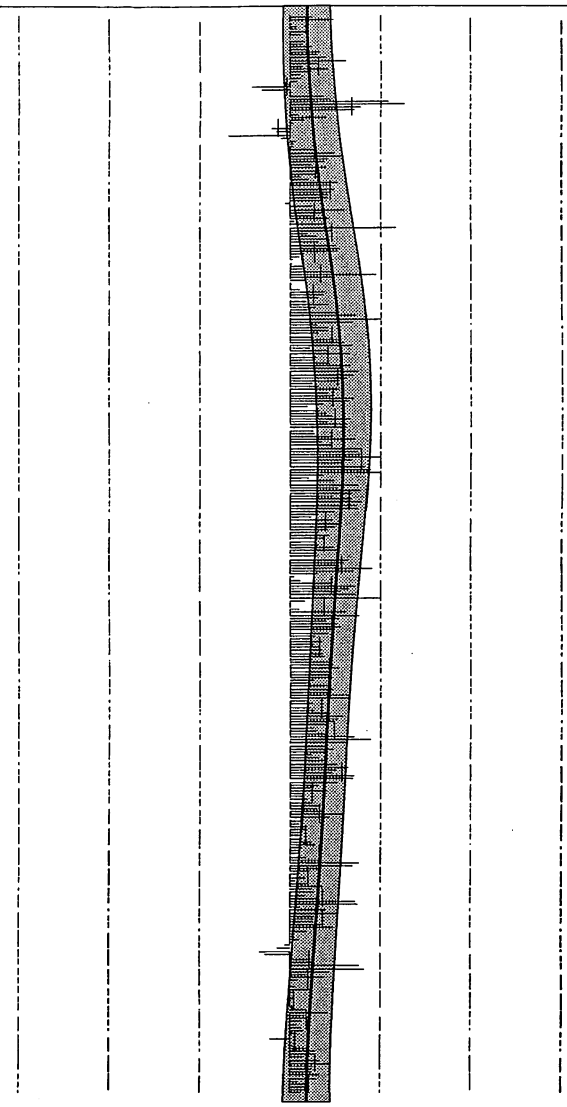


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	48	97	4	16	18	34	23	34
12 JAN	-1	32	27	50	38	64	60	38
19 JAN	80	125	59	28	81	47	20	63
26 JAN	23	15	-12	-86	-63	-3	73	-8
2 FEB	88	218	254	156	143	19	82	137
9 FEB	29	8	-3	-39	-30	-135	-22	-27
16 FEB	12	8	7	51	99	111	82	53
23 FEB	77	46	79	55	67	26	39	56
2 MAR	107	92	100	92	86	85	70	90
9 MAR	-9	48	120	74	52	89	11	55
16 MAR	82	234	93	38	58	85	64	93
23 MAR	102	110	105	29	22	8	6	54
30 MAR	28	27	96	191	90	34	4	67
6 APR	3	20	77	74	61	35	84	50
13 APR	57	37	103	149	202	139	59	107
20 APR	85	86	63	53	107	121	137	93
27 APR	44	82	133	56	50	88	134	84
4 MAY	114	151	142	125	107	47	64	107
11 MAY	109	86	94	143	132	75	38	97
18 MAY	66	78	94	134	83	125	126	101
25 MAY	51	55	91	145	70	89	160	94
1 JUN	153	161	198	136	121	165	178	159
8 JUN	202	74	39	96	152	103	156	117
15 JUN	138	97	137	159	149	152	97	133
22 JUN	62	46	93	112	100	85	62	80
29 JUN	86	73	56	63	97	105	59	77
6 JUL	63	131	121	103	182	140	60	114
13 JUL	10	22	93	146	130	113	146	94
20 JUL	203	33	3	1	21	125	155	77
27 JUL	110	81	105	112	97	85	57	92
3 AUG	47	70	53	63	72	72	76	65
10 AUG	48	84	96	106	88	88	94	86
17 AUG	53	42	82	96	94	132	134	90
24 AUG	39	50	43	54	89	117	104	71
31 AUG	98	85	50	56	84	143	179	99
7 SEP	130	83	95	85	45	61	77	82
14 SEP	105	129	101	93	144	139	105	117
21 SEP	62	52	83	28	30	39	48	49
28 SEP	68	61	72	119	86	27	22	65
5 OCT	33	32	28	20	26	45	57	34
12 OCT	27	22	25	34	63	154	139	66
19 OCT	63	43	15	34	12	39	73	40
26 OCT	48	53	32	66	145	153	25	75
2 NOV	80	104	53	52	51	73	96	73
9 NOV	36	14	9	20	6	-9	-25	7
16 NOV	-66	-54	4	45	55	155	166	44
23 NOV	87	35	77	17	3	12	44	39
30 NOV	8	2	10	3	0	7	38	10
7 DEC	85	37	39	27	14	27	30	37
14 DEC	18	1	-44	5	6	43	58	12
21 DEC	56	31	67	92	49	49	50	56
28 DEC	67	59	21	38	43	46	28	43



NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	49	115	46	56	38	48	43	56
11 JAN	49	82	80	38	154	83	38	75
18 JAN	30	53	23	13	17	74	24	33
25 JAN	21	14	7	93	19	212	170	77
1 FEB	39	36	47	50	10	-53	-20	16
8 FEB	-78	-17	5	20	24	70	50	11
15 FEB	201	174	125	189	114	53	69	132
22 FEB	28	99	71	72	86	34	18	58
1 MAR	23	3	-18	-23	-7	75	126	25
8 MAR	54	113	63	59	40	144	173	92
15 MAR	183	150	79	117	92	48	104	111
22 MAR	119	109	172	126	88	74	10	100
29 MAR	-2	-13	-17	17	85	103	124	43
5 APR	102	156	114	133	93	124	239	137
12 APR	140	28	40	46	77	101	65	71
19 APR	58	45	75	54	101	113	80	75
26 APR	80	112	49	22	34	134	212	92
3 MAY	156	102	86	54	40	52	116	87
10 MAY	85	66	70	47	29	27	71	56
17 MAY	82	97	73	48	55	94	88	77
24 MAY	95	137	105	130	110	111	108	114
31 MAY	139	33	43	55	94	87	25	68
7 JUN	50	132	146	80	41	22	65	77
14 JUN	77	99	138	108	118	178	139	122
21 JUN	202	125	37	40	26	48	91	81
28 JUN	111	102	55	104	171	177	150	124
5 JUL	79	154	205	167	85	43	42	111
12 JUL	90	156	158	110	54	69	57	99
19 JUL	68	83	97	127	202	209	225	144
26 JUL	144	107	182	171	204	90	39	134
2 AUG	68	47	75	64	47	41	65	58
9 AUG	43	46	72	97	129	92	83	80
16 AUG	90	122	127	120	82	79	84	101
23 AUG	132	126	74	47	58	49	53	77
30 AUG	75	134	121	94	37	35	48	78
6 SEP	119	85	66	159	244	231	129	147
13 SEP	48	55	60	43	50	58	78	56
20 SEP	84	55	20	48	87	130	153	82
27 SEP	65	57	88	90	73	131	99	86
4 OCT	31	17		112	88	37	9	49
11 OCT	6	36	85	63	37	13	19	37
18 OCT	22	10	1	-4	-18	-1	-2	1
25 OCT	14	18	20	28	40	5	6	19
1 NOV	55	68	6	-13	4	7	16	20
8 NOV	28	83	49	18	51	68	153	64
15 NOV	72	37	18	35	20	55	86	46
22 NOV	80	72	38	101	21	21	77	59
29 NOV	30	31	22	22	4	-25	9	13
6 DEC	18	104	93	102	74	70	198	94
13 DEC	214	6	-132	-277	-23	74	41	-14
20 DEC	11	19	112	167	145	42	-9	69
27 DEC	-7	0	33	35	23	7	-8	12

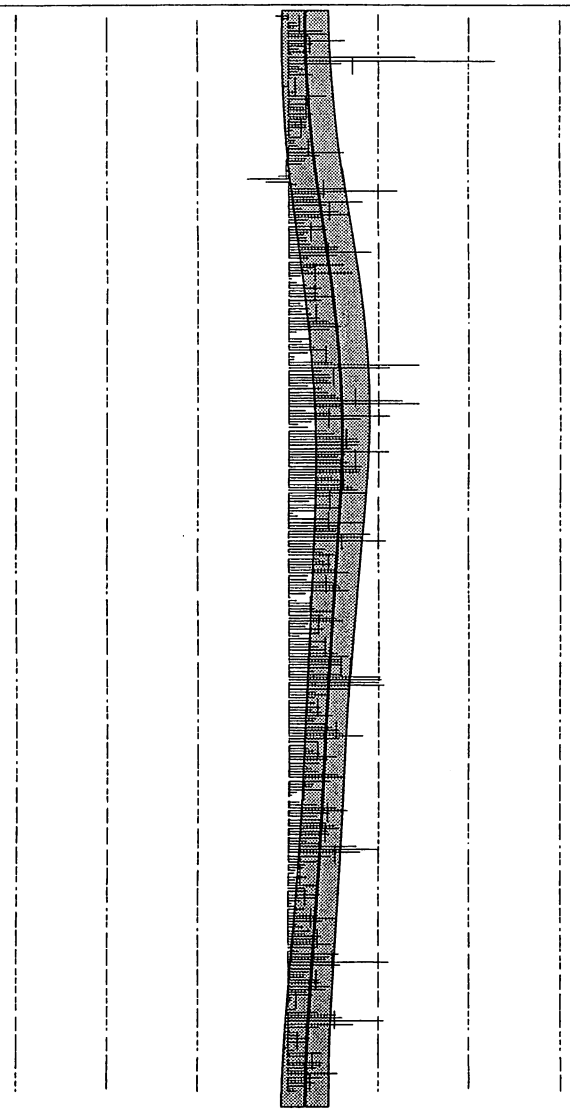
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	-26	-11	19	22	13	75	86	26
10 JAN	45	128	54	40	24	52	6	50
17 JAN	283	461	118	24	38	20	55	143
24 JAN	6	-1	-2	-12	-1	21	85	14
31 JAN	53	7	42	35	40	55	48	40
7 FEB	42	41	39	41	10	8	30	30
14 FEB	15	11	21	42	123	71	42	46
21 FEB	38	29	2	-4	10	-21	-90	-5
28 FEB	-50	18	125	244	83	58	72	78
6 MAR	165	86	31	113	139	78	44	94
13 MAR	34	82	87	44	35	40	43	52
20 MAR	48	111	111	184	109	46	33	92
27 MAR	124	58	44	140	28	8	17	60
3 APR	41	73	34	65	108	73	27	60
10 APR	32	45	30	53	70	91	113	62
17 APR	117	91	17	3	47	30	46	50
24 APR	56	83	43	12	14	98	291	85
1 MAY	226	74	91	92	89	97	42	102
8 MAY	74	87	103	116	255	291	123	150
15 MAY	36	93	227	160	51	20	42	90
22 MAY	82	103	115	151	158	156	137	129
29 MAY	223	129	110	125	136	161	161	149
5 JUN	157	60	95	128	128	141	154	123
12 JUN	170	99	62	47	88	119	63	92
19 JUN	10	22	91	172	115	115	106	90
26 JUN	182	162	218	64	61	83	76	121
3 JUL	105	68	79	96	51	106	136	91
10 JUL	43	41	98	112	119	134	37	83
17 JUL	5	18	50	45	58	96	77	50
24 JUL	108	121	44	37	80	65	24	68
31 JUL	51	85	52	64	82	111	131	82
7 AUG	122	120	114	95	58	115	205	118
14 AUG	206	202	212	134	60	89	56	137
21 AUG	47	58	72	55	74	95	61	66
28 AUG	56	84	96	114	122	165	112	107
4 SEP	64	38	43	54	72	106	89	66
11 SEP	67	40	51	64	110	123	94	78
18 SEP	56	51	80	18	8	3	23	34
25 SEP	64	108	131	90	62	74	86	88
2 OCT	100	112	87	90	72	41	69	81
9 OCT	151	200	160	94	28	62	38	104
16 OCT	31	15	14	40	15	17	62	28
23 OCT	36	43	70	62	29	8	16	38
30 OCT	34	22	67	106	76	21	32	51
6 NOV	48	38	74	66	66	97	62	64
13 NOV	21	113	91	85	223	116	50	100
20 NOV	46	36	35	68	73	92	82	62
27 NOV	39	55	9	8	0	5	16	19
4 DEC	67	108	121	213	146	67	5	104
11 DEC	18	28	49	39	-1	-7	13	20
18 DEC	74	43	4	75	73	61	44	54
25 DEC	110	73	32	59	40	14	17	49

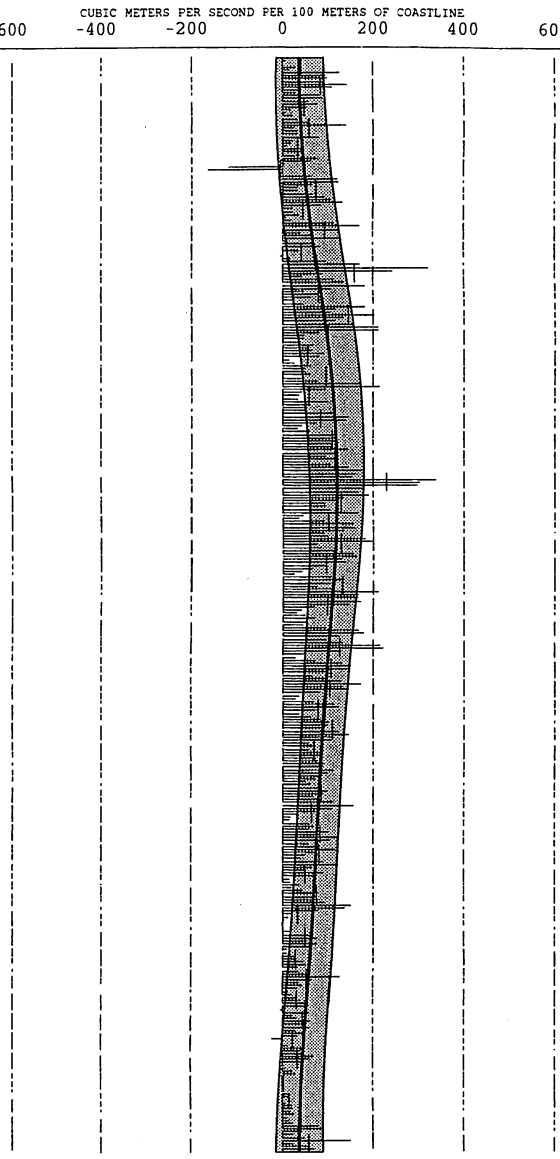


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1989 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	17	9	3	28	18	126	95	42
8 JAN	98	91	143	111	42	29	80	85
15 JAN	86	59	78	57	22	8	22	47
22 JAN	36	56	140	26	35	38	78	58
29 JAN	24	19	10	47	43	25	75	35
5 FEB	62	4	-119	-161	-4	64	120	-5
12 FEB	124	68	35	36	68	92	103	75
19 FEB	132	84	25	23	34	9	17	46
26 FEB	112	170	123	44	63	123	13	92
5 MAR	67	81	35	1	-5	18	96	42
12 MAR	170	323	242	91	44	113	138	160
19 MAR	183	108	48	75	61	27	47	78
26 MAR	183	118	106	203	135	115	157	145
2 APR	213	213	81	49	46	40	67	101
9 APR	59	66	90	83	16	25	62	57
16 APR	51	52	62	48	80	171	215	97
23 APR	94	42	39	34	97	62	52	60
30 APR	54	111	146	140	75	44	34	86
7 MAY	62	112	119	117	107	108	144	110
14 MAY	115	96	112	59	107	147	173	115
21 MAY	161	153	341	304	299	179	169	229
28 MAY	189	135	118	93	93	104	165	128
4 JUN	46	37	91	157	159	138	89	102
11 JUN	98	181	198	75	85	114	157	130
18 JUN	164	129	140	96	64	44	25	95
25 JUN	108	137	104	76	110	213	167	131
2 JUL	167	175	149	70	43	31	51	98
9 JUL	71	52	46	95	168	181	125	105
16 JUL	96	131	214	225	130	55	29	126
23 JUL	70	129	150	144	94	67	99	107
30 JUL	129	173	134	146	82	39	30	105
6 AUG	69	113	125	72	39	63	84	81
13 AUG	101	98	82	124	145	111	107	110
20 AUG	57	64	58	88	85	74	78	72
27 AUG	94	90	110	98	85	71	51	85
3 SEP	64	84	97	93	69	86	112	86
10 SEP	158	110	73	32	17	14	59	66
17 SEP	72	59	103	86	120	105	59	86
24 SEP	79	114	72	51	40	92	118	81
1 OCT	66	56	90	80	15	19	38	52
8 OCT	20	46	79	68	84	94	150	77
15 OCT	137	78	22	12	3	-1	-1	36
22 OCT	1	19	66	78	57	75	64	51
29 OCT	10	10	26	31	45	50	31	29
5 NOV	34	50	126	66	35	44	31	55
12 NOV	14	22	35	41	54	53	-4	31
19 NOV	60	20	33	62	57	59	29	46
26 NOV	47	35	-23	5	14	45	41	23
3 DEC	42	67	61	42	5	6	24	35
10 DEC	29	-2	2	2	-2	5	4	5
17 DEC	16	11	2	8	22	23	17	14
24 DEC	25	11	14	25	83	94	42	42
31 DEC	24	49	151	24	58	72	35	59



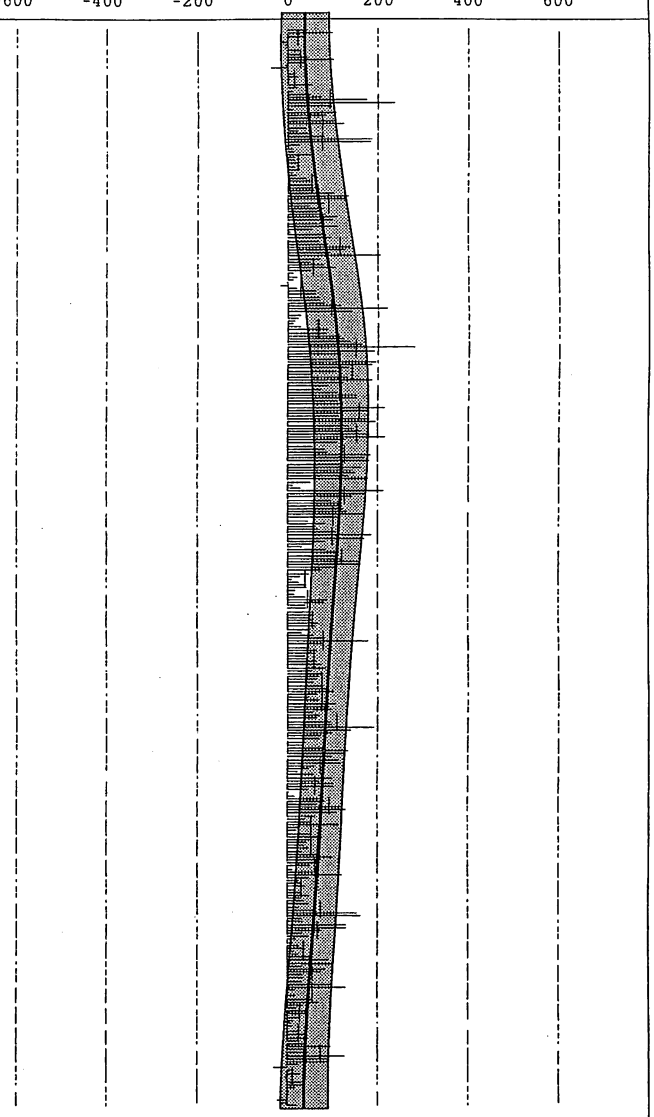
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	44	99	35	2	-14	-4	-3	23
14 JAN	28	30	48	103	39	-5	-37	29
21 JAN	-1	13	25	6	-1	56	20	17
28 JAN	10	51	74	175	238	95	9	93
4 FEB	108	85	52	101	125	41	23	76
11 FEB	42	80	186	186	27	9	13	77
18 FEB	55	19	15	21	15	25	14	23
25 FEB	22	41	50	58	57	61	101	55
4 MAR	136	131	80	51	79	73	84	90
11 MAR	110	100	78	109	57	8	85	78
18 MAR	95	68	88	139	127	93	206	117
25 MAR	71	51	78	105	51	14	22	56
1 APR	12	-3	-14	20	61	63	69	30
8 APR	70	79	115	220	143	29	24	97
15 APR	15	11	30	89	85	119	125	68
22 APR	138	166	283	192	118	52	106	151
29 APR	196	188	134	107	50	132	189	142
6 MAY	124	91	73	109	155	154	109	116
13 MAY	124	214	177	115	114	183	196	160
20 MAY	135	144	162	183	217	131	109	154
27 MAY	57	82	88	186	172	181	120	127
3 JUN	163	146	150	136	179	51	12	120
10 JUN	30	212	174	141	97	116	120	127
17 JUN	123	133	168	110	45	82	58	102
24 JUN	69	107	187	170	82	55	31	100
1 JUL	85	105	111	120	160	162	105	121
8 JUL	76	49	29	9	27	44	42	39
15 JUL	19	16	41	89	79	39	44	47
22 JUL	52	59	48	55	67	63	48	56
29 JUL	33	58	82	179	78	49	67	78
5 AUG	53	41	46	66	74	86	53	60
12 AUG	80	67	66	58	79	90	100	77
19 AUG	65	47	72	108	92	97	57	77
26 AUG	71	69	96	98	192	141	97	109
2 SEP	74	71	42	37	81	136	126	81
9 SEP	98	112	118	60	50	24	60	74
16 SEP	97	72	101	101	45	4	17	62
23 SEP	77	82	67	117	130	109	64	92
30 SEP	40	51	114	28	20	54	78	55
7 OCT	56	42	38	50	35	64	101	55
14 OCT	73	70	52	13	56	121	49	62
21 OCT	27	33	40	19	33	49	31	33
28 OCT	39	49	28	59	154	163	31	75
4 NOV	36	129	129	77	36	49	20	68
11 NOV	12	25	37	14	26	57	91	37
18 NOV	100	33	85	74	34	34	33	56
25 NOV	99	129	18	4	21	53	67	56
2 DEC	38	21	45	45	28	13	10	29
9 DEC	9	2	24	41	47	24	39	27
16 DEC	95	40	50	128	90	91	22	74
23 DEC	-29	16	30	-3	-3	32	37	12
30 DEC	17	5	1	-1	-21	-10	20	2



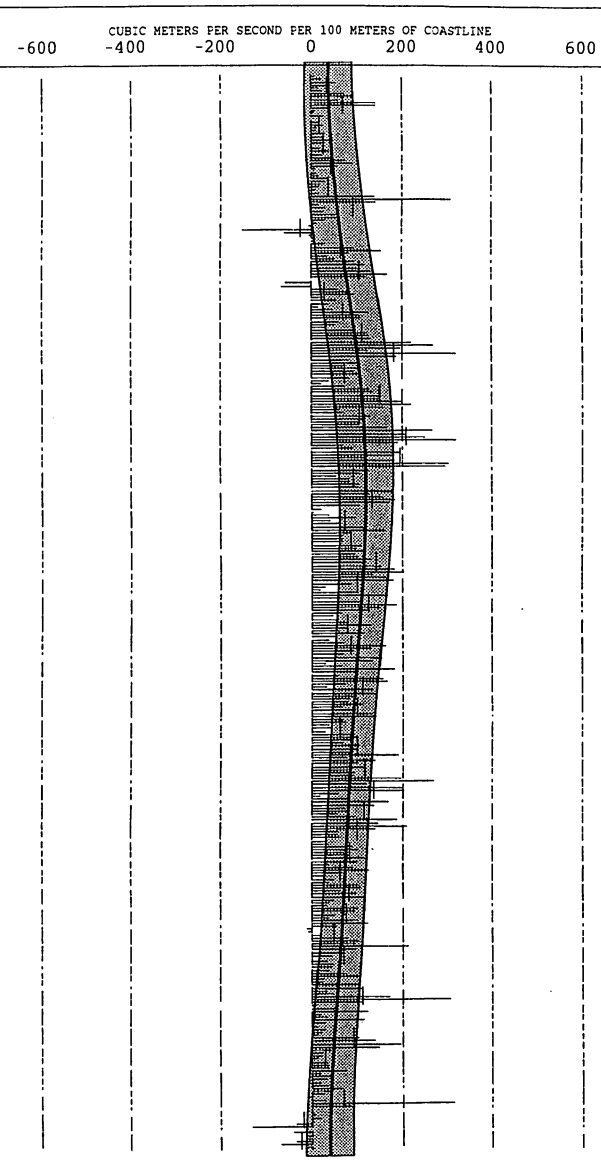
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	8	25	53	35	16	23	73	33
13 JAN	91	60	144	143	43	9	4	70
20 JAN	27	0	18	27	14	11	28	18
27 JAN	28	47	29	1	19	39	24	26
3 FEB	48	74	91	57	8	9	16	43
10 FEB	35	28	20	16	6	17	139	37
17 FEB	310	144	16	30	26	60	64	93
24 FEB	31	10	-3	-151	-60	-5	7	-25
3 MAR	6	31	93	153	83	34	52	64
10 MAR	96	119	101	132	167	124	1	106
17 MAR	-57	-65	61	79	95	28	58	28
24 MAR	36	16	45	126	106	106	61	71
31 MAR	55	30	94	123	126	132	220	111
7 APR	271	195	126	320	187	81	101	183
14 APR	73	106	94	108	82	38	21	75
21 APR	74	125	138	154	149	202	222	152
28 APR	156	62	67	133	121	107	108	108
5 MAY	165	268	210	252	321	190	67	210
12 MAY	94	194	182	121	181	304	297	196
19 MAY	126	108	53	82	85	104	104	94
26 MAY	179	127	158	184	171	108	20	135
2 JUN	5	39	95	40	61	114	164	74
9 JUN	85	67	68	67	110	99	112	87
16 JUN	97	106	128	120	156	183	206	142
23 JUN	137	161	181	89	30	18	103	103
30 JUN	168	65	113	188	152	123	69	125
7 JUL	47	54	76	133	75	60	116	80
14 JUL	52	39	71	162	131	92	72	88
21 JUL	155	134	29	64	182	96	57	102
28 JUL	158	165	73	33	134	142	91	114
4 AUG	83	80	114	69	95	135	144	103
11 AUG	68	73	37	42	29	92	105	64
18 AUG	87	69	107	100	83	189	76	102
25 AUG	140	102	118	80	96	93	196	118
1 SEP	272	122	200	205	60	18	80	137
8 SEP	169	136	74	85	56	92	189	114
15 SEP	147	210	141	58	57	60	29	100
22 SEP	37	91	100	71	83	116	98	85
29 SEP	38	90	126	68	32	49	38	63
6 OCT	104	106	63	101	114	50	39	82
13 OCT	33	101	94	48	35	103	124	77
20 OCT	58	-9	-7	18	78	105	92	48
27 OCT	214	96	72	43	1	32	45	72
3 NOV	45	37	76	102	26	25	108	60
10 NOV	114	35	45	172	307	111	11	113
17 NOV	48	125	22	36	115	29	12	55
24 NOV	28	20	13	103	141	196	147	93
1 DEC	40	23	25	12	34	37	38	30
8 DEC	77	18	45	31	22	36	69	42
15 DEC	42	27	-9	31	315	87	1	70
22 DEC	-3	9	17	4	-34	-129	1	-19
29 DEC	-42	-11	-10	-35	-69	-9	3	-25



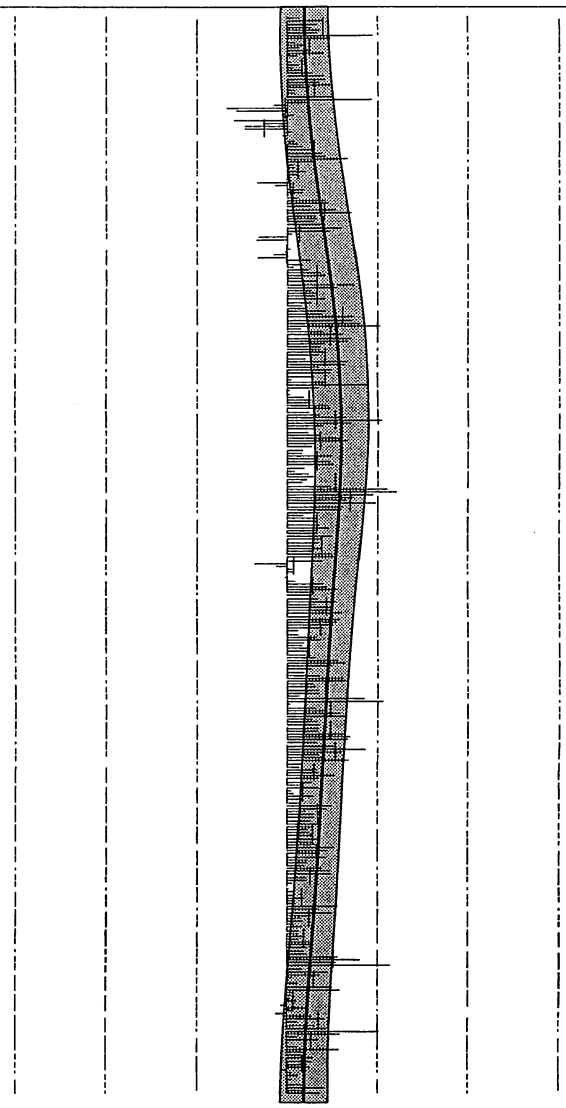
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	27	80	65	56	70	66	192	79
12 JAN	96	15	40	26	51	83	21	47
19 JAN	3	6	23	13	35	53	83	31
26 JAN	82	71	95	48	15	15	100	61
2 FEB	187	50	-30	-135	-113	11	-8	-5
9 FEB	-119	-53	-94	-92	10	-9	0	-51
16 FEB	15	22	33	58	75	84	135	60
23 FEB	63	13	16	40	25	6	-1	23
1 MAR	-64	-26	37	31	5	23	84	13
8 MAR	91	53	106	144	62	65	56	82
15 MAR	86	122	94	9	-63	-68	2	26
22 MAR	0	6	-6	-29	-66	49	31	-2
29 MAR	13	46	73	86	31	65	147	66
5 APR	111	55	66	59	83	50	33	65
12 APR	44	84	76	150	144	163	208	124
19 APR	30	79	125	143	139	82	74	96
26 APR	70	79	69	41	135	130	67	84
3 MAY	98	95	60	11	82	175	69	84
10 MAY	6	7	38	53	51	91	93	48
17 MAY	48	71	129	209	142	80	60	106
24 MAY	46	73	118	134	63	56	34	75
31 MAY	31	98	69	96	101	37	16	64
7 JUN	45	58	44	33	96	224	242	106
14 JUN	190	150	132	196	123	120	71	140
21 JUN	35	62	69	72	91	68	65	66
28 JUN	99	77	67	54	76	55	99	75
5 JUL	108	77	-72	-23	12	12	1	16
12 JUL	-6	19	80	88	114	60	48	58
19 JUL	69	111	60	102	100	122	51	88
26 JUL	116	110	103	79	24	25	65	74
2 AUG	72	38	31	47	47	40	64	48
9 AUG	114	128	99	55	37	70	127	90
16 AUG	129	57	63	69	71	27	171	84
23 AUG	213	7	63	78	117	130	55	95
30 AUG	66	70	69	69	130	140	134	97
6 SEP	65	103	173	120	68	83	139	107
13 SEP	33	27	64	69	107	69	56	61
20 SEP	37	67	10	15	58	34	32	36
27 SEP	99	88	40	61	61	51	77	68
4 OCT	56	45	49	55	64	57	64	56
11 OCT	103	85	72	84	43	43	37	67
18 OCT	75	95	95	44	43	11	3	52
25 OCT	4	16	14	36	19	21	113	32
1 NOV	71	99	54	31	35	16	36	49
8 NOV	25	23	34	25	56	57	43	38
15 NOV	37	43	113	164	110	228	35	104
22 NOV	92	73	13	5	23	102	117	61
29 NOV	15	9	9	25	-12	41	15	15
6 DEC	-23	54	81	25	62	87	205	70
13 DEC	119	23	70	1	25	115	32	55
20 DEC	35	56	53	43	51	-9	9	34
27 DEC	26	9	5	31	82	36	73	37



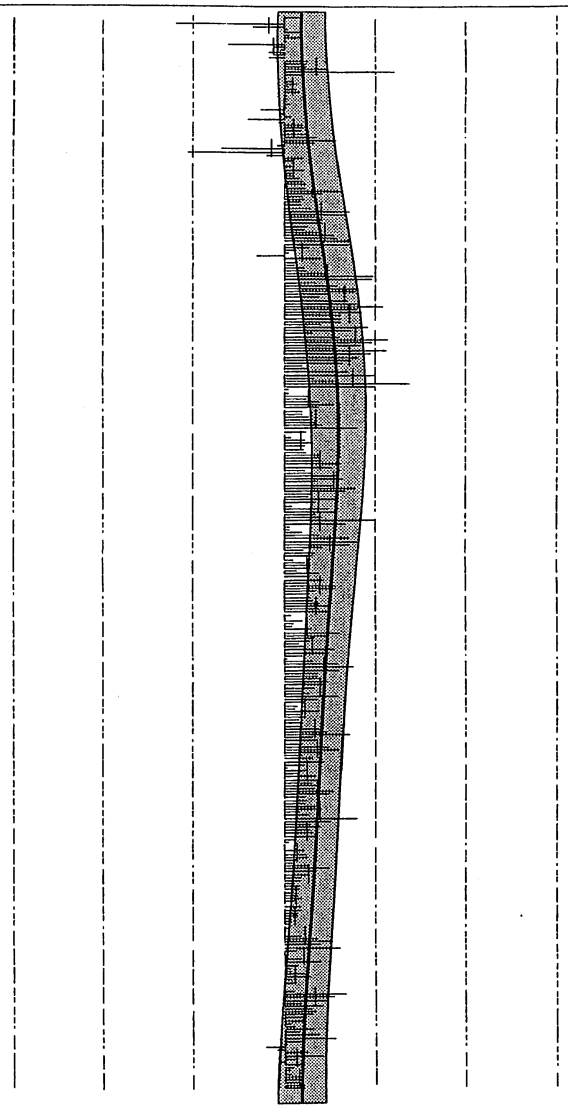
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	31	-3	-237	-69	8	33	10	-32
10 JAN	39	4	-122	-25	-7	-31	-24	-24
17 JAN	-33	52	49	49	91	243	38	70
24 JAN	4	21	27	10	27	31	5	18
31 JAN	8	8	12	5	-52	-10	13	-2
7 FEB	-78	-13	40	43	37	52	70	21
14 FEB	115	69	-15	-137	-210	-38	40	-25
21 FEB	19	2	15	43	19	17	35	21
28 FEB	42	47	47	127	86	42	43	62
7 MAR	39	38	57	143	133	74	85	81
14 MAR	84	52	46	74	110	115	147	90
21 MAR	141	54	28	9	-59	79	28	40
28 MAR	23	43	50	93	195	194	71	96
4 APR	117	164	158	103	77	137	163	131
11 APR	218	160	170	122	124	124	79	143
18 APR	185	145	62	121	230	192	168	157
25 APR	119	228	191	162	145	127	39	144
2 MAY	53	141	203	64	119	275	202	151
9 MAY	11	10	56	50	76	110	75	55
16 MAY	40	42	55	56	68	81	159	71
23 MAY	50	2	16	45	64	45	43	38
30 MAY	49	76	77	83	126	105	47	80
6 JUN	59	115	129	73	110	156	133	111
13 JUN	61	53	118	68	18	97	115	75
20 JUN	67	86	199	136	13	13	39	79
27 JUN	76	144	160	142	83	43	67	102
4 JUL	63	20	46	59	58	29	76	50
11 JUL	58	89	53	111	112	68	56	78
18 JUL	59	63	80	96	76	101	15	70
25 JUL	6	42	21	19	59	120	89	51
1 AUG	64	57	31	43	110	98	42	64
8 AUG	8	63	119	152	122	73	75	87
15 AUG	83	97	89	66	42	55	117	78
22 AUG	71	42	30	23	78	34	48	47
29 AUG	32	41	38	76	94	142	63	69
5 SEP	74	39	98	119	76	41	63	73
12 SEP	87	46	7	45	34	71	74	52
19 SEP	59	79	68	107	98	46	49	72
26 SEP	46	69	81	35	55	160	101	78
3 OCT	56	78	57	65	73	28	9	52
10 OCT	-2	0	44	49	56	31	19	28
17 OCT	56	100	72	57	37	35	24	54
24 OCT	36	36	21	28	38	27	1	27
31 OCT	35	38	30	29	14	15	10	24
7 NOV	9	5	2	37	74	106	80	45
14 NOV	125	26	-2	2	38	79	30	43
21 NOV	12	12	42	58	17	19	-2	23
28 NOV	0	20	136	109	97	36	84	69
5 DEC	60	70	63	42	42	12	20	44
12 DEC	63	33	77	114	43	4	-40	42
19 DEC	-15	47	84	20	-10	43	19	27
26 DEC	14	13	31	39	31	44	44	31



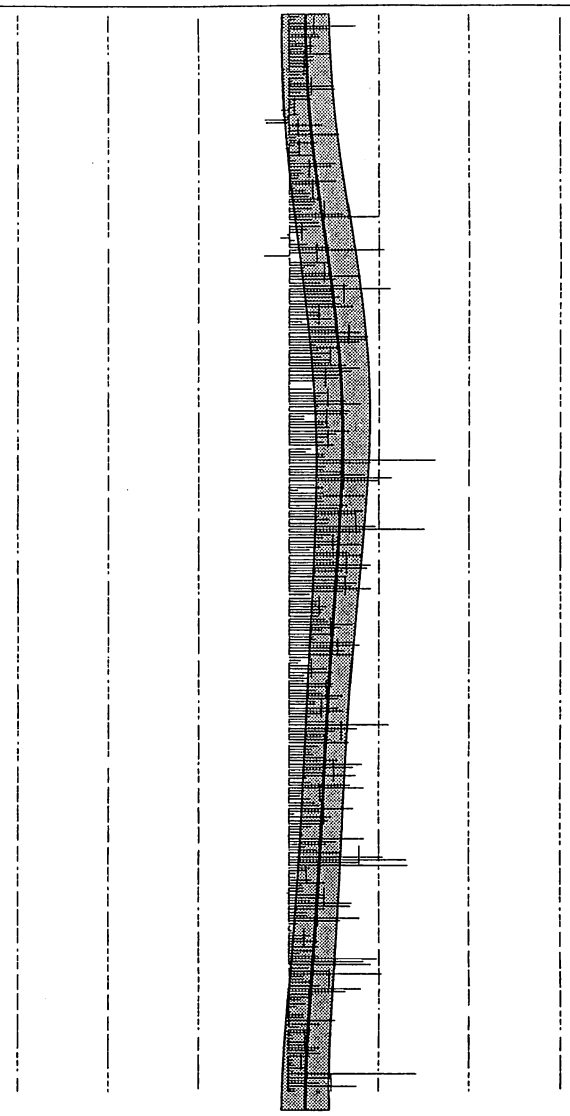
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	24	18	50	149	90	3	65	57
9 JAN	69	16	39	58	31	35	90	48
16 JAN	54	56	44	45	-5	36	22	36
23 JAN	31	8	54	102	103	27	42	52
30 JAN	50	6	8	12	-16	21	-4	11
6 FEB	-52	-49	73	3	46	113	17	21
13 FEB	19	63	12	-8	20	50	7	23
20 FEB	16	104	95	27	31	20	21	45
27 FEB	106	68	13	39	46	43	66	54
6 MAR	56	53	47	26	120	201	52	79
13 MAR	68	72	41	33	-5	-17	13	29
20 MAR	39	91	212	61	-53	-3	91	63
27 MAR	58	35	33	97	159	105	70	80
3 APR	129	226	95	96	112	93	115	124
10 APR	143	35	66	70	93	30	42	68
17 APR	111	104	160	178	173	158	61	135
24 APR	110	65	90	71	94	90	130	93
1 MAY	157	137	113	110	54	5	-2	82
8 MAY	53	81	71	65	126	158	67	89
15 MAY	135	128	35	36	86	75	90	83
22 MAY	135	104	87	64	75	103	48	88
29 MAY	36	78	80	326	182	82	75	123
5 JUN	114	169	228	200	58	75	22	124
12 JUN	76	164	74	76	133	109	167	114
19 JUN	148	68	91	87	194	302	160	150
26 JUN	94	76	108	160	71	46	134	98
3 JUL	164	94	109	183	173	121	60	129
10 JUL	130	113	149	141	182	121	45	126
17 JUL	50	63	64	81	76	75	66	68
24 JUL	81	86	139	115	74	102	55	93
31 JUL	60	141	157	98	123	142	49	110
7 AUG	26	20	51	86	97	36	43	51
14 AUG	34	97	96	61	74	120	110	85
21 AUG	60	57	110	120	71	47	43	72
28 AUG	100	224	152	100	78	88	92	119
4 SEP	136	67	52	51	54	81	109	78
11 SEP	164	142	74	85	150	41	49	100
18 SEP	139	169	35	29	25	48	58	72
25 SEP	69	142	67	13	95	88	80	79
2 OCT	49	31	29	33	167	108	85	72
9 OCT	37	63	118	209	263	154	265	158
16 OCT	49	40	15	16	52	83	32	41
23 OCT	33	33	78	82	50	140	138	79
30 OCT	82	40	39	157	116	21	4	66
6 NOV	8	13	45	38	68	8	65	35
13 NOV	59	22	65	196	166	183	43	105
20 NOV	87	207	31	31	56	67	161	91
27 NOV	128	55	44	28	39	17	2	45
4 DEC	5	34	35	104	72	22	51	46
11 DEC	48	7	9	38	38	67	60	38
18 DEC	72	50	11	11	12	35	11	29
25 DEC	285	97	42	69	152	17	16	97



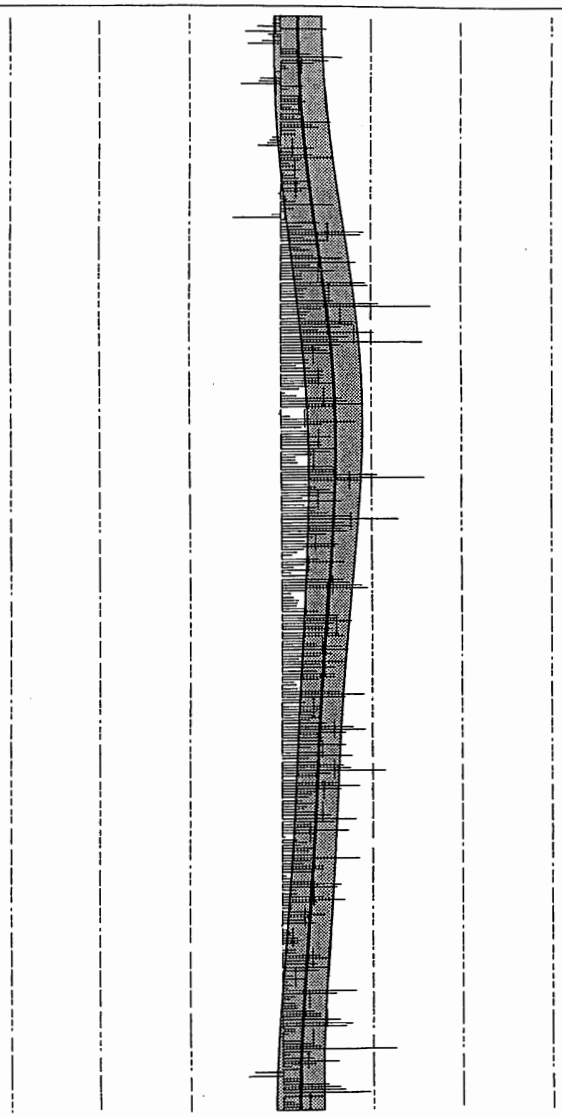
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 30N, 119W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	13	-15	-17	-47	101	-76	-28	-10
8 JAN	-19	-41	-70	2	32	37	65	1
15 JAN	134	105	73	10	16	-10	2	47
22 JAN	-43	-47	-87	49	16	-1	48	-9
29 JAN	44	56	44	23	44	43	33	41
5 FEB	52	109	68	84	32	33	-19	51
12 FEB	-23	-30	-50	74	30	72	117	27
19 FEB	42	19	31	44	10	33	39	31
26 FEB	68	44	58	47	-5	12	15	34
5 MAR	32	114	28	9	-18	-104	10	10
12 MAR	84	48	80	186	175	51	101	103
19 MAR	87	42	66	18	73	135	165	84
26 MAR	67	81	118	47	47	49	188	85
2 APR	194	59	50	55	51	116	219	106
9 APR	336	91	63	61	54	164	160	133
16 APR	133	83	208	150	128	317	130	164
23 APR	90	105	113	54	62	63	34	74
30 APR	64	93	96	93	79	114	62	86
7 MAY	39	11	34	135	146	182	118	95
14 MAY	-1	-6	21	65	165	90	45	54
21 MAY	57	65	111	62	87	92	117	84
28 MAY	107	71	33	32	39	112	120	73
4 JUN	120	213	318	171	56	78	107	152
11 JUN	117	86	46	131	52	75	74	83
18 JUN	101	155	259	138	156	135	144	155
25 JUN	97	67	53	124	117	49	35	77
2 JUL	23	83	141	52	27	64	21	59
9 JUL	60	139	149	175	191	53	20	112
16 JUL	28	38	35	33	47	83	124	55
23 JUL	120	155	113	90	109	124	137	121
30 JUL	45	51	78	131	147	106	81	91
6 AUG	39	131	84	117	77	116	117	97
13 AUG	82	26	32	35	130	182	139	89
20 AUG	41	51	85	86	77	66	83	70
27 AUG	59	98	157	184	140	87	90	117
3 SEP	91	141	64	32	93	154	57	90
10 SEP	79	136	151	229	108	80	29	116
17 SEP	120	170	129	74	64	57	42	94
24 SEP	69	53	49	70	107	164	112	89
1 OCT	61	67	145	73	8	34	54	63
8 OCT	39	66	58	64	170	62	45	72
15 OCT	94	92	66	9	20	74	128	69
22 OCT	121	28	32	89	136	77	20	72
29 OCT	20	66	94	64	53	74	-1	53
5 NOV	13	22	17	35	41	34	0	23
12 NOV	29	29	83	101	59	76	100	68
19 NOV	80	5	25	45	9	20	13	28
26 NOV	162	117	26	18	27	33	32	59
3 DEC	70	86	85	126	156	141	26	98
10 DEC	26	11	2	42	64	89	251	69
17 DEC	63	18	69	125	74	18	33	57
24 DEC	-59	-74	39	33	101	128	139	44
31 DEC	192	88	5	22	42	43	25	60



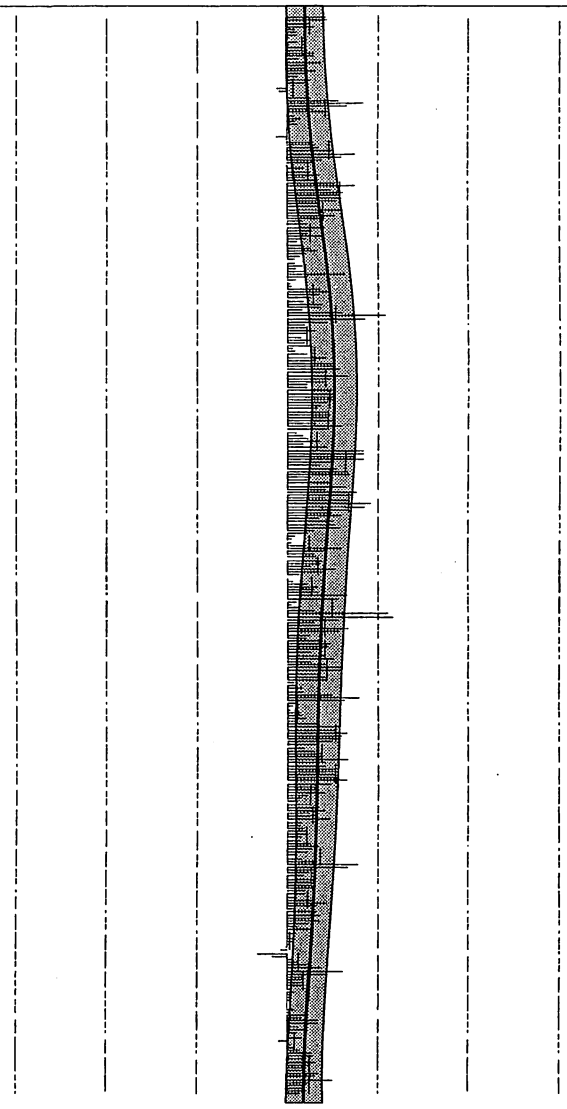
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1986 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	85	89	46	57	15	19	22	47
12 JAN	5	21	6	35	43	59	57	32
19 JAN	24	74	44	40	63	40	22	44
26 JAN	53	38	-3	-23	-19	1	50	14
2 FEB	113	168	132	57	88	16	28	86
9 FEB	18	22	3	0	0	-23	-3	3
16 FEB	58	63	72	99	152	122	78	92
23 FEB	54	-1	38	53	70	40	68	46
2 MAR	105	150	97	124	115	120	108	117
9 MAR	67	67	123	83	106	82	32	80
16 MAR	44	82	54	42	80	39	21	52
23 MAR	33	51	66	40	26	15	14	35
30 MAR	32	18	38	127	43	17	8	40
6 APR	9	71	91	70	51	34	76	58
13 APR	75	33	122	217	170	88	37	106
20 APR	42	59	41	30	47	38	52	44
27 APR	13	18	43	84	61	99	102	60
4 MAY	115	88	132	97	83	42	42	86
11 MAY	101	101	108	104	86	74	69	92
18 MAY	89	95	86	98	63	122	88	92
25 MAY	22	34	46	70	36	87	169	66
1 JUN	168	146	168	105	71	110	135	129
8 JUN	141	52	43	95	129	83	154	99
15 JUN	147	85	139	185	171	134	98	137
22 JUN	121	72	102	106	117	61	47	89
29 JUN	19	9	10	41	122	80	61	49
6 JUL	62	76	73	52	106	77	27	68
13 JUL	2	11	42	68	59	65	133	54
20 JUL	112	21	10	26	60	222	236	98
27 JUL	111	58	71	135	116	50	39	83
3 AUG	78	93	91	75	53	79	102	81
10 AUG	51	82	121	122	73	81	88	88
17 AUG	16	22	32	34	98	160	126	70
24 AUG	21	14	6	33	32	40	24	24
31 AUG	63	119	105	131	121	119	98	108
7 SEP	65	36	59	79	79	135	85	77
14 SEP	85	113	110	103	109	132	95	107
21 SEP	67	70	82	43	32	23	53	53
28 SEP	70	83	46	49	93	33	30	58
5 OCT	35	42	46	35	30	51	70	44
12 OCT	54	43	22	33	68	158	136	73
19 OCT	62	49	39	62	51	52	62	54
26 OCT	39	40	23	55	87	65	16	46
2 NOV	69	74	52	71	46	23	52	55
9 NOV	21	5	13	16	8	-1	-13	7
16 NOV	-64	-32	12	27	44	76	123	27
23 NOV	90	37	36	36	37	9	16	37
30 NOV	10	8	10	2	2	18	6	8
7 DEC	48	33	68	68	28	45	24	45
14 DEC	2	36	-18	11	14	29	54	18
21 DEC	58	43	62	48	45	40	71	52
28 DEC	63	100	45	43	35	42	28	51



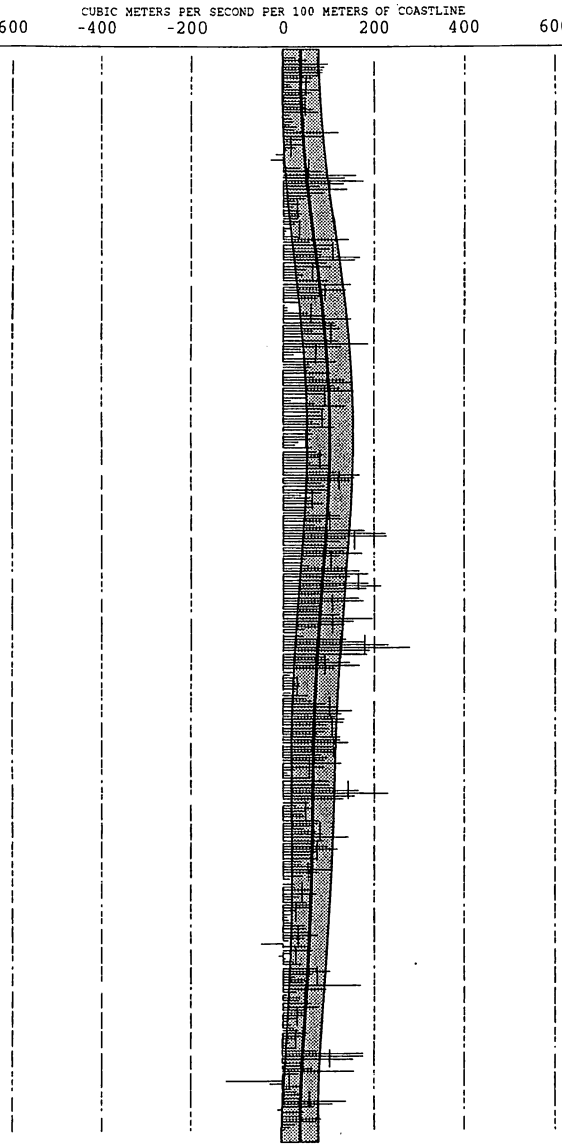
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	26	54	99	90	88	87	81	75
11 JAN	66	61	16	19	82	63	51	51
18 JAN	47	48	50	45	66	77	12	49
25 JAN	18	21	12	30	24	120	92	45
1 FEB	45	19	42	27	10	-15	-3	18
8 FEB	-26	-1	8	37	86	160	134	57
15 FEB	176	133	80	141	92	62	51	105
22 FEB	26	37	20	39	39	37	31	33
1 MAR	35	25	18	8	5	33	143	38
8 MAR	58	110	102	86	84	168	157	109
15 MAR	97	107	49	34	43	35	101	66
22 MAR	150	76	138	85	91	78	36	93
29 MAR	3	11	9	55	96	147	115	62
5 APR	115	124	69	97	41	122	188	108
12 APR	126	41	53	25	103	114	58	74
19 APR	63	56	104	67	135	149	112	98
26 APR	127	154	92	49	18	71	138	93
3 MAY	90	82	88	93	68	80	114	88
10 MAY	62	65	54	63	36	25	62	52
17 MAY	72	90	82	58	67	100	105	82
24 MAY	118	168	158	145	86	90	98	123
31 MAY	86	39	60	66	90	69	55	67
7 JUN	57	123	124	86	70	90	180	104
14 JUN	226	229	137	125	100	144	131	156
21 JUN	175	125	48	41	57	137	168	107
28 JUN	186	146	103	188	215	181	138	165
5 JUL	84	167	176	85	84	81	89	109
12 JUL	124	195	154	134	79	47	28	109
19 JUL	46	136	179	231	280	190	184	178
26 JUL	93	102	145	167	116	22	14	94
2 AUG	29	20	39	38	30	19	55	33
9 AUG	51	65	94	124	152	130	116	105
16 AUG	135	131	95	100	93	78	127	108
23 AUG	125	144	112	119	111	86	100	114
30 AUG	94	130	92	28	11	14	56	61
6 SEP	100	103	115	166	231	158	132	143
13 SEP	57	29	62	47	43	47	79	52
20 SEP	77	63	45	74	87	142	91	83
27 SEP	70	98	120	73	58	77	41	77
4 OCT	41	67		104	79	43	14	58
11 OCT	27	25	56	74	35	24	51	42
18 OCT	60	61	31	15	10	11	19	29
25 OCT	49	51	58	78	45	11	-46	35
1 NOV	49	65	18	-8	7	23	42	28
8 NOV	75	103	64	27	48	45	171	76
15 NOV	96	28	10	37	35	63	80	50
22 NOV	50	47	46	33	10	17	24	32
29 NOV	31	56	40	28	16	11	29	30
6 DEC	73	175	177	153	41	46	65	104
13 DEC	157	34	3	-123	-28	39	17	14
20 DEC	30	38	41	139	111	67	-9	60
27 DEC	45	34	84	74	26	18	6	41

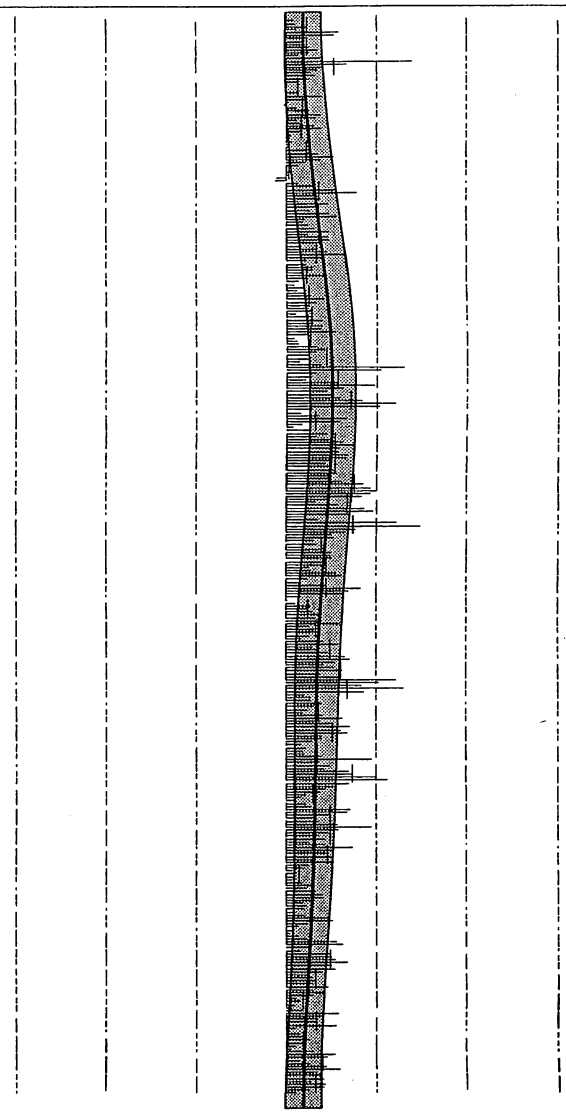


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1988 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	2	17	18	45	23	119	106	47
10 JAN	48	36	43	51	70	51	27	47
17 JAN	77	279	134	83	69	54	62	108
24 JAN	51	23	3	3	2	29	78	27
31 JAN	40	8	-4	23	50	76	67	37
7 FEB	24	28	62	79	31	11	6	34
14 FEB	11	9	8	45	72	107	78	47
21 FEB	43	25	0	9	6	-20	-25	6
28 FEB	25	63	109	158	61	77	27	74
6 MAR	93	75	54	96	113	44	37	73
13 MAR	49	62	97	50	94	96	68	74
20 MAR	32	66	90	131	81	45	42	69
27 MAR	56	60	34	91	42	27	18	47
3 APR	38	25	41	53	85	65	50	51
10 APR	41	58	20	58	79	60	81	57
17 APR	77	111	47	18	24	26	69	53
24 APR	85	65	52	50	30	80	264	89
1 MAY	209	65	58	42	113	195	125	115
8 MAY	93	107	118	169	242	207	60	142
15 MAY	31	70	136	118	36	16	53	66
22 MAY	93	68	95	126	148	119	118	109
29 MAY	138	131	95	88	101	107	112	110
5 JUN	100	93	124	171	187	202	189	152
12 JUN	169	97	67	116	174	193	139	136
19 JUN	42	71	246	299	155	134	102	150
26 JUN	108	61	67	37	74	101	98	78
3 JUL	100	91	88	53	54	114	124	89
10 JUL	45	31	92	165	139	129	33	90
17 JUL	4	21	57	48	58	81	66	48
24 JUL	78	121	52	72	72	52	32	68
31 JUL	82	119	59	71	94	132	142	100
7 AUG	110	85	106	125	79	125	245	125
14 AUG	208	169	263	173	40	53	55	137
21 AUG	79	62	45	39	83	126	78	73
28 AUG	108	143	124	139	80	79	57	104
4 SEP	36	44	38	39	80	190	75	72
11 SEP	96	86	140	152	202	228	141	149
18 SEP	111	87	77	42	31	21	45	59
25 SEP	56	142	139	96	61	75	115	98
2 OCT	189	118	94	72	84	51	87	99
9 OCT	149	108	89	101	59	106	49	94
16 OCT	38	15	24	21	15	35	61	30
23 OCT	46	65	83	83	66	37	45	61
30 OCT	41	20	39	96	105	50	26	54
6 NOV	14	10	27	46	112	127	54	56
13 NOV	33	96	102	110	136	101	110	98
20 NOV	78	48	60	63	61	92	60	66
27 NOV	84	59	23	29	18	13	34	37
4 DEC	119	80	71	68	113	20	10	69
11 DEC	28	44	51	42	20	9	61	37
18 DEC	110	94	30	54	91	121	68	81
25 DEC	80	85	53	87	84	48	22	65

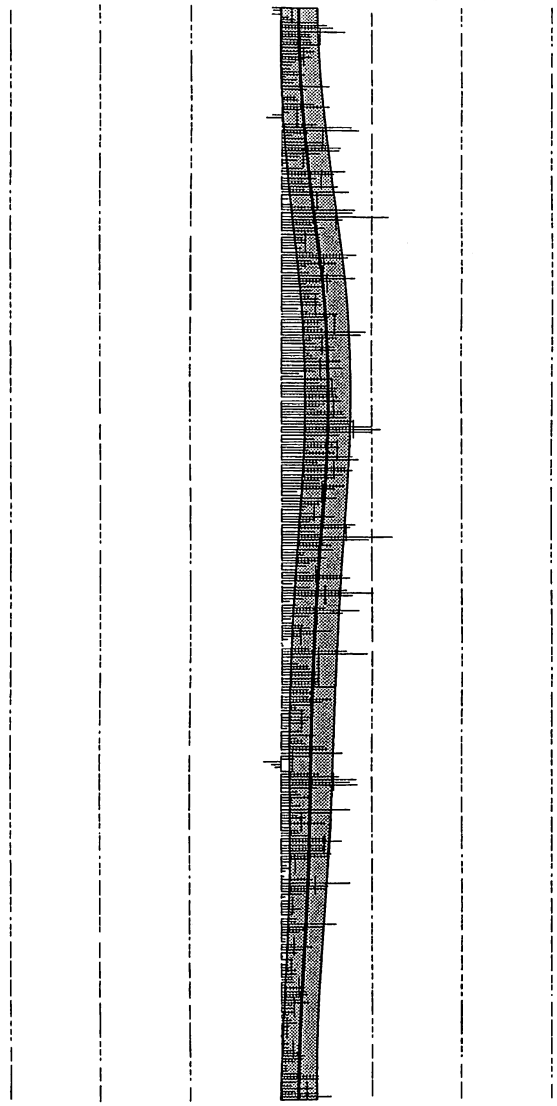


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1989 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-21	-19	-20	14	32	80	99	24
8 JAN	114	141	63	65	62	65	81	84
15 JAN	64	71	35	66	49	29	22	48
22 JAN	19	43	50	9	32	23	104	40
29 JAN	56	7	-3	29	34	70	105	42
5 FEB	47	15	-20	-34	5	76	156	35
12 FEB	171	59	23	54	87	105	129	90
19 FEB	128	82	40	36	14	5	46	50
26 FEB	141	115	77	47	60	122	51	88
5 MAR	149	115	16	1	27	87	163	80
12 MAR	156	238	135	84	68	94	77	122
19 MAR	85	46	56	53	34	42	67	55
26 MAR	166	146	65	121	54	46	60	94
2 APR	135	163	109	54	91	69	83	101
9 APR	63	83	81	89	37	59	124	77
16 APR	103	102	87	85	91	188	178	119
23 APR	122	67	77	115	119	63	71	90
30 APR	81	129	106	134	76	39	49	88
7 MAY	116	83	106	124	120	121	128	114
14 MAY	131	96	84	74	137	137	143	115
21 MAY	157	150	199	221	201	126	73	161
28 MAY	120	113	126	61	115	156	171	123
4 JUN	80	97	139	158	135	118	82	115
11 JUN	85	139	114	35	44	121	92	90
18 JUN	83	53	48	74	117	75	61	73
25 JUN	162	152	74	82	245	193	94	143
2 JUL	110	113	55	49	95	89	64	82
9 JUL	54	31	63	134	151	71	24	75
16 JUL	63	142	206	158	45	19	34	95
23 JUL	96	171	136	59	20	27	50	80
30 JUL	63	108	76	42	13	-3	3	43
6 AUG	60	144	191	66	15	36	57	81
13 AUG	63	77	78	84	83	77	118	83
20 AUG	60	71	60	109	91	71	34	71
27 AUG	52	52	65	60	54	20	14	45
3 SEP	46	77	35	49	54	96	105	66
10 SEP	135	69	29	-37	-21	-12	29	27
17 SEP	86	126	166	152	168	80	38	117
24 SEP	43	63	27	28	42	150	106	65
1 OCT	36	54	22	97	24	39	44	45
8 OCT	59	98	131	90	93	93	110	96
15 OCT	104	60	23	13	17	11	2	33
22 OCT	6	72	152	105	96	55	45	76
29 OCT	11	16	22	33	44	30	25	26
5 NOV	34	34	121	97	59	41	16	57
12 NOV	10	11	32	67	52	34	3	30
19 NOV	27	2	16	21	34	36	23	22
26 NOV	26	31	9	55	56	60	46	40
3 DEC	41	60	25	26	27	15	14	30
10 DEC	24	35	19	8	1	-1	2	12
17 DEC	7	18	13	25	37	51	45	28
24 DEC	31	13	10	12	46	81	83	39
31 DEC	32	21	68	31	83	110	47	56



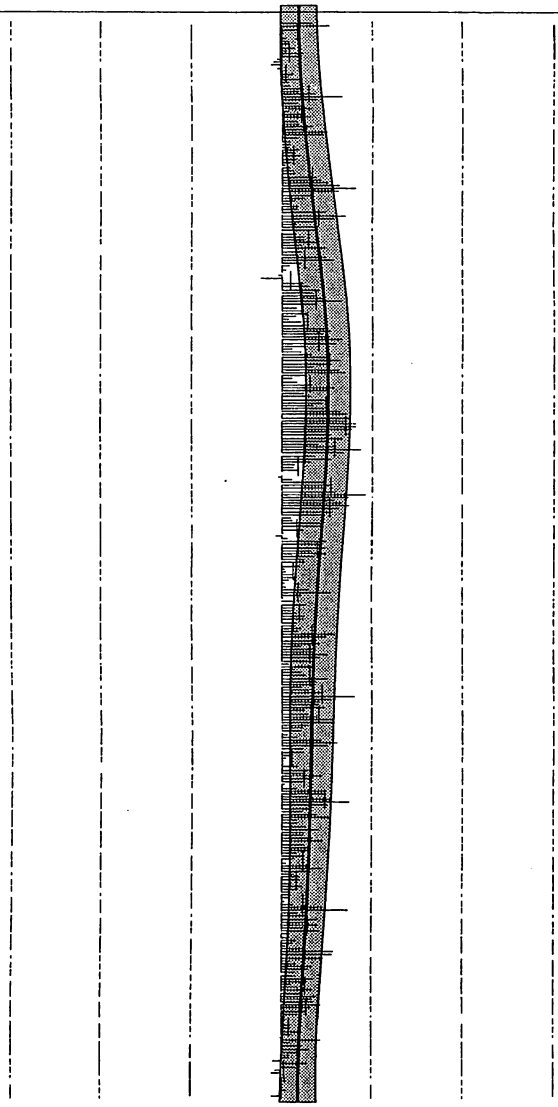
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	69	108	33	3	0	10	14	34
14 JAN	17	31	11	47	41	-9	-17	17
21 JAN	-24	-9	1	23	15	46	18	10
28 JAN	19	48	39	74	135	79	35	61
4 FEB	43	66	14	44	63	35	38	43
11 FEB	67	49	101	93	34	18	19	54
18 FEB	19	37	28	40	31	20	8	26
25 FEB	18	26	29	78	87	103	129	67
4 MAR	166	127	68	52	30	18	35	71
11 MAR	35	95	144	116	70	35	77	81
18 MAR	74	36	47	50	82	42	97	61
25 MAR	44	37	99	115	44	19	9	53
1 APR	3	-6	-47	4	47	61	82	20
8 APR	68	76	87	133	79	36	48	75
15 APR	55	33	16	42	50	97	108	57
22 APR	89	106	133	122	50	23	42	81
29 APR	65	99	129	113	68	126	140	106
6 MAY	51	25	34	69	117	105	47	64
13 MAY	65	96	86	71	92	131	144	98
20 MAY	149	147	166	165	156	104	110	142
27 MAY	135	99	79	120	178	137	72	117
3 JUN	109	66	29	26	34	3	-8	37
10 JUN	25	96	108	93	119	187	148	111
17 JUN	115	134	152	126	114	96	21	108
24 JUN	25	85	91	48	4	-12	12	36
1 JUL	98	83	95	64	97	71	49	79
8 JUL	51	41	7	11	28	25	15	25
15 JUL	8	10	59	110	43	3	23	37
22 JUL	54	26	25	35	52	49	34	39
29 JUL	31	42	37	117	100	67	84	68
5 AUG	44	70	73	102	85	56	17	64
12 AUG	67	28	43	55	100	77	75	64
19 AUG	47	59	87	164	110	81	81	90
26 AUG	97	51	59	82	115	119	60	83
2 SEP	46	44	12	35	88	124	102	64
9 SEP	48	49	20	9	4	3	34	24
16 SEP	59	55	91	68	45	6	36	51
23 SEP	103	98	56	109	151	101	62	97
30 SEP	47	79	105	35	36	55	83	63
7 OCT	49	48	71	92	51	66	66	63
14 OCT	36	50	26	9	67	91	66	49
21 OCT	30	41	41	25	46	35	19	34
28 OCT	22	17	6	27	90	149	39	50
4 NOV	54	80	63	79	47	86	17	61
11 NOV	12	34	27	10	50	115	112	51
18 NOV	92	21	33	69	59	32	32	48
25 NOV	72	60	22	36	68	46	78	55
2 DEC	69	72	88	67	57	38	10	57
9 DEC	10	7	22	21	47	20	-1	18
16 DEC	87	20	47	62	42	18	18	42
23 DEC	-18	58	31	-12	-22	-1	11	7
30 DEC	9	-1	3	11	-5	-21	2	0



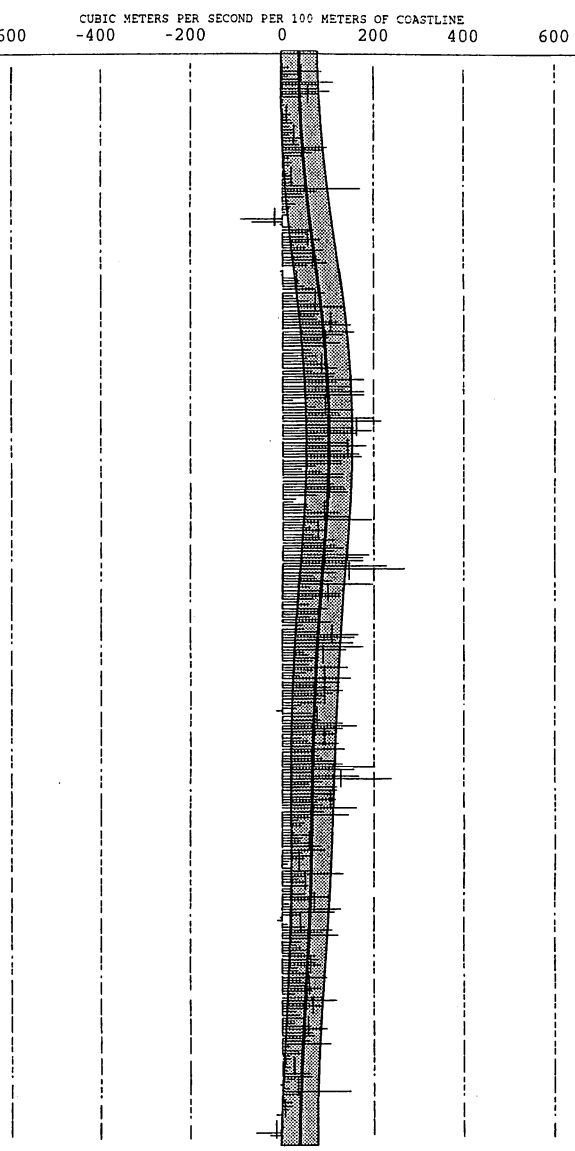
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	2	19	88	38	14	34	114	44
13 JAN	81	76	105	80	46	4	0	56
20 JAN	4	-2	-1	19	12	19	23	11
27 JAN	15	26	24	14	42	34	38	27
3 FEB	98	87	66	43	15	22	18	50
10 FEB	0	6	9	22	23	27	53	20
17 FEB	170	75	44	50	14	29	17	57
24 FEB	14	7	13	-90	-64	-5	20	-15
3 MAR	72	55	48	83	60	25	53	56
10 MAR	90	75	78	84	98	56	1	69
17 MAR	-5	-2	26	38	37	48	73	31
24 MAR	94	24	31	56	89	134	89	74
31 MAR	81	70	76	124	149	90	157	107
7 APR	133	102	84	128	95	61	65	96
14 APR	73	54	78	97	120	66	117	86
21 APR	112	181	121	147	138	178	178	151
28 APR	108	25	55	74	158	125	126	96
5 MAY	198	219	106	158	197	164	102	163
12 MAY	91	144	184	105	128	168	172	142
19 MAY	130	130	74	42	87	136	132	104
26 MAY	100	114	135	138	143	72	30	104
2 JUN	23	54	54	64	127	145	195	94
9 JUN	80	51	63	91	68	83	116	79
16 JUN	90	121	136	113	191	176	177	143
23 JUN	148	230	271	117	68	77	110	146
30 JUN	199	59	91	128	128	68	33	101
7 JUL	59	99	83	86	58	77	108	81
14 JUL	44	50	82	166	157	116	153	110
21 JUL	178	140	47	58	80	68	58	90
28 JUL	142	65	52	38	150	127	72	92
4 AUG	106	131	109	93	83	86	41	93
11 AUG	31	-12	64	76	82	132	162	76
18 AUG	133	104	118	41	57	124	72	92
25 AUG	139	76	79	86	116	133	203	119
1 SEP	158	67	169	241	87	57	121	129
8 SEP	121	114	76	119	75	89	162	108
15 SEP	89	145	59	34	48	44	17	62
22 SEP	27	65	43	41	59	84	94	59
29 SEP	42	63	49	15	13	22	68	39
6 OCT	135	50	31	47	57	21	23	52
13 OCT	50	102	67	16	20	129	116	71
20 OCT	41	-5	-9	12	50	109	90	41
27 OCT	125	67	39	30	40	53	46	57
3 NOV	70	79	73	86	32	36	59	62
10 NOV	99	42	56	55	84	65	26	61
17 NOV	87	120	61	89	56	28	37	68
24 NOV	48	25	27	63	97	66	70	57
1 DEC	52	59	108	18	34	42	17	47
8 DEC	18	10	10	18	12	61	62	27
15 DEC	28	14	-4	15	150	36	-2	34
22 DEC	8	21	21	13	-3	-14	-2	6
29 DEC	-2	-2	7	-4	-56	-26	2	-11



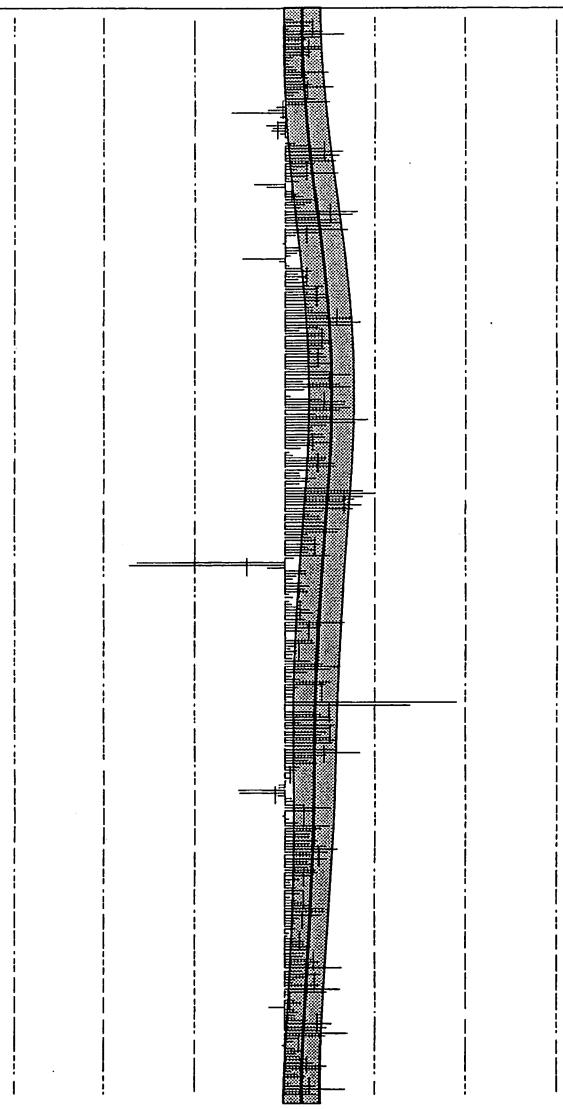
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	19	57	55	9	85	132	83	63
12 JAN	49	33	82	83	60	54	18	54
19 JAN	10	9	18	26	95	50	51	37
26 JAN	38	59	106	42	28	21	68	52
2 FEB	98	40	-17	-38	-118	-10	6	-6
9 FEB	-14	-40	-28	-29	-11	5	2	-16
16 FEB	24	49	81	129	120	91	113	87
23 FEB	65	44	28	117	46	10	29	49
1 MAR	-69	-40	19	29	40	60	61	14
8 MAR	43	35	162	152	75	116	127	101
15 MAR	101	141	76	24	5	6	-5	50
22 MAR	30	37	27	12	-94	-13	10	1
29 MAR	37	59	28	45	29	50	85	47
5 APR	68	51	97	89	77	55	62	71
12 APR	63	98	100	152	167	151	75	115
19 APR	32	87	87	99	98	81	87	81
26 APR	61	86	91	52	107	74	49	74
3 MAY	97	142	100	39	122	147	43	98
10 MAY	1	12	80	131	133	144	120	89
17 MAY	67	107	184	157	93	63	64	105
24 MAY	85	89	62	100	66	36	11	64
31 MAY	19	94	86	109	113	54	33	73
7 JUN	35	72	57	33	91	175	200	95
14 JUN	173	154	131	171	152	85	57	132
21 JUN	80	80	88	86	120	118	53	89
28 JUN	60	69	78	52	69	51	98	68
5 JUL	21	-326	-344	-38	45	49	26	-81
12 JUL	18	37	55	43	52	11	17	33
19 JUL	9	15	22	55	63	34	46	35
26 JUL	131	83	70	39	1	4	61	56
2 AUG	64	24	14	26	19	19	57	32
9 AUG	84	124	102	50	16	31	98	72
16 AUG	89	28	22	19	22	5	383	81
23 AUG	280	2	71	81	102	106	38	97
30 AUG	110	100	93	79	105	112	105	100
6 SEP	61	110	168	90	63	53	73	88
13 SEP	32	26	14	-2	16	5	-13	11
20 SEP	-12	-102	-99	-16	15	24	45	-21
27 SEP	101	68	1	-4	11	30	98	43
4 OCT	83	59	56	58	74	55	90	68
11 OCT	117	96	65	92	54	65	52	77
18 OCT	71	74	62	33	14	14	26	42
25 OCT	41	36	13	26	42	62	88	44
1 NOV	85	80	32	24	23	15	24	40
8 NOV	11	7	24	43	47	60	49	34
15 NOV	45	41	65	76	57	127	38	64
22 NOV	81	54	23	17	79	124	94	67
29 NOV	10	1	23	38	-36	24	30	13
6 DEC	23	24	51	104	94	80	140	74
13 DEC	89	30	20	-5	23	43	26	32
20 DEC	34	51	64	92	83	16	29	53
27 DEC	46	4	14	72	134	60	70	57

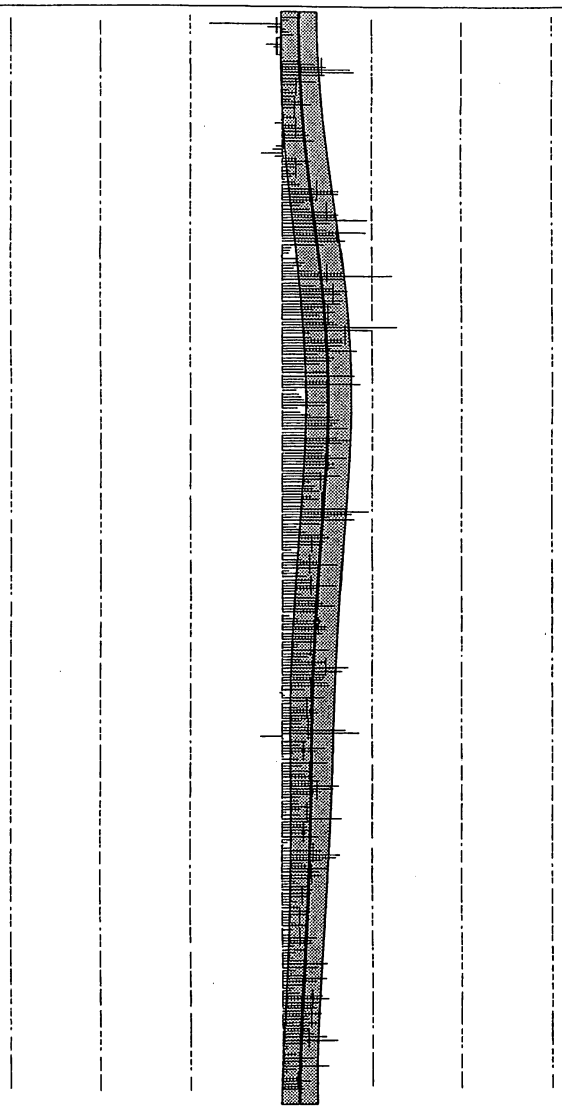


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1993 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	44	19	-157	-29	10	16	25	-10
10 JAN	-9	-1	-32	-14	5	-4	-7	-9
17 JAN	5	45	75	97	151	161	95	90
24 JAN	44	75	34	2	15	33	28	33
31 JAN	17	43	65	32	1	7	33	28
7 FEB	-1	-12	31	47	52	61	50	33
14 FEB	73	10	-9	-19	-44	-12	32	4
21 FEB	66	46	32	17	28	24	8	32
28 FEB	28	41	74	127	128	75	79	79
7 MAR	52	41	64	112	126	117	191	100
14 MAR	108	81	99	189	118	127	139	123
21 MAR	94	21	17	15	0	29	52	32
28 MAR	45	27	66	137	246	140	43	100
4 APR	76	116	147	128	86	134	129	116
11 APR	109	71	118	84	107	119	127	105
18 APR	258	199	62	66	132	135	133	141
25 APR	113	164	80	119	109	85	48	102
2 MAY	49	99	159	48	106	175	99	105
9 MAY	31	37	42	50	104	93	34	56
16 MAY	42	62	114	125	125	112	144	103
23 MAY	57	53	121	155	133	93	92	100
30 MAY	91	110	143	95	119	119	51	104
6 JUN	88	129	96	65	74	72	83	87
13 JUN	45	69	81	51	51	147	193	91
20 JUN	155	108	160	85	33	40	53	90
27 JUN	96	107	97	87	42	21	36	69
4 JUL	42	42	88	123	83	16	36	61
11 JUL	55	71	64	121	76	30	43	66
18 JUL	74	85	94	118	83	82	16	79
25 JUL	36	92	84	102	97	90	68	81
1 AUG	71	80	35	34	106	67	57	64
8 AUG	43	95	75	145	132	99	96	98
15 AUG	92	101	108	51	-6	8	94	64
22 AUG	74	19	36	77	78	62	63	58
29 AUG	44	42	58	142	171	-46	5	59
5 SEP	54	40	95	79	27	5	38	48
12 SEP	102	43	24	59	51	74	84	62
19 SEP	69	127	114	89	70	41	36	78
26 SEP	38	72	42	11	39	131	62	56
3 OCT	53	56	67	56	79	23	14	50
10 OCT	4	18	91	131	121	91	46	71
17 OCT	57	105	81	87	68	33	39	67
24 OCT	60	69	64	56	20	31	22	46
31 OCT	39	64	57	22	15	30	53	40
7 NOV	24	1	21	77	69	69	27	41
14 NOV	48	29	19	22	57	100	79	51
21 NOV	29	27	55	100	75	47	23	51
28 NOV	19	38	91	105	79	66	75	67
5 DEC	51	86	56	59	76	60	61	64
12 DEC	57	70	99	125	50	14	12	61
19 DEC	1	29	72	53	19	105	30	44
26 DEC	9	5	37	64	39	40	50	35

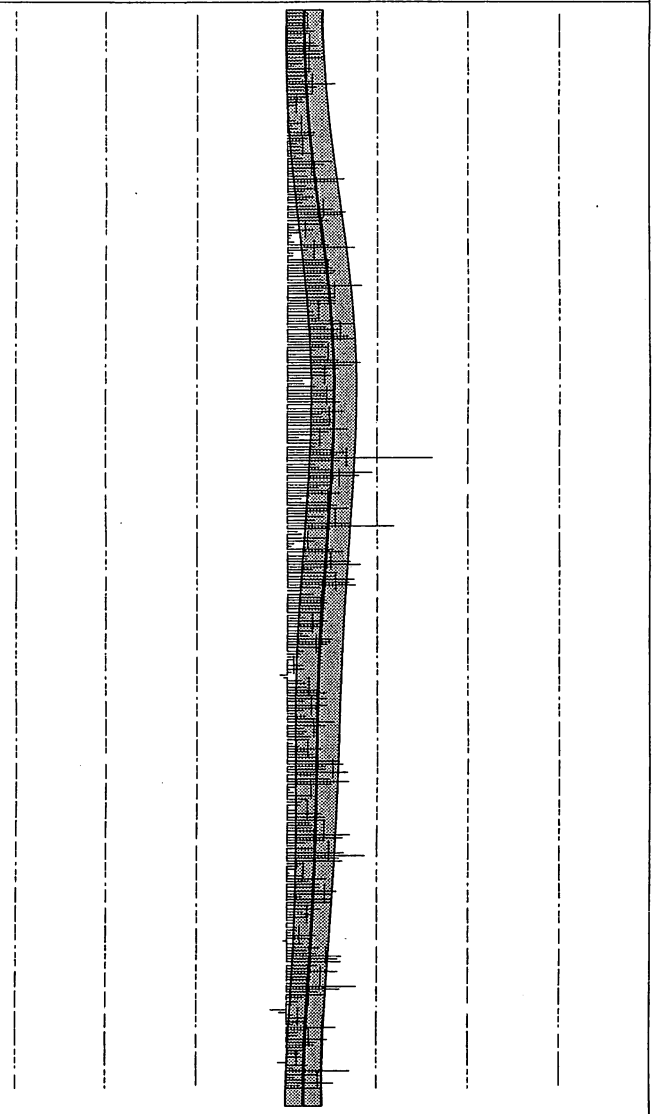


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1994 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	42	43	36	47	50	50	59	47
9 JAN	49	32	20	60	72	49	78	51
16 JAN	75	80	32	36	14	55	46	48
23 JAN	47	30	60	108	66	36	58	58
30 JAN	46	33	37	21	-1	5	6	21
6 FEB	7	19	33	13	25	63	59	31
13 FEB	45	39	20	30	27	64	19	35
20 FEB	34	100	79	68	42	10	43	53
27 FEB	127	106	42	60	37	34	61	67
6 MAR	44	31	61	99	129	118	81	80
13 MAR	90	72	15	56	29	9	8	40
20 MAR	16	89	148	44	12	12	93	59
27 MAR	80	89	98	104	101	75	79	89
3 APR	81	165	99	76	100	100	107	104
10 APR	104	53	47	60	60	64	118	72
17 APR	146	85	120	111	135	147	89	119
24 APR	79	87	64	49	84	112	162	91
1 MAY	143	112	86	97	56	34	38	81
8 MAY	65	102	85	88	104	119	57	88
15 MAY	84	127	77	76	100	101	93	94
22 MAY	133	91	62	28	73	66	63	74
29 MAY	104	131	110	324	118	64	70	132
5 JUN	100	190	160	105	90	89	72	115
12 JUN	89	114	51	33	92	109	138	89
19 JUN	94	46	81	62	144	236	96	108
26 JUN	25	32	83	59	15	9	104	47
3 JUL	127	46	47	140	161	90	57	95
10 JUL	110	103	149	138	152	73	25	107
17 JUL	56	79	87	87	83	85	77	79
24 JUL	33	42	87	81	71	57	36	58
31 JUL	45	99	95	87	73	38	28	66
7 AUG	28	13	6	34	36	9	-15	16
14 AUG	-6	31	43	43	67	87	68	48
21 AUG	87	42	88	66	37	21	44	55
28 AUG	66	104	81	37	44	38	50	60
4 SEP	49	13	26	77	46	56	65	47
11 SEP	114	125	86	86	134	69	94	101
18 SEP	137	99	22	6	15	56	43	54
25 SEP	32	28	3	19	77	83	84	46
2 OCT	56	56	53	71	140	123	83	83
9 OCT	40	21	58	127	175	115	124	94
16 OCT	37	28	19	8	38	88	50	38
23 OCT	74	73	111	102	32	97	96	84
30 OCT	60	77	38	55	49	20	18	45
6 NOV	23	23	11	65	54	-8	37	29
13 NOV	73	46	64	121	113	120	69	86
20 NOV	55	112	46	55	55	51	154	75
27 NOV	119	71	87	40	27	14	2	51
4 DEC	-36	-14	16	49	41	16	111	26
11 DEC	43	25	22	89	69	63	44	51
18 DEC	43	33	35	5	-19	50	15	23
25 DEC	140	67	20	47	104	31	78	70



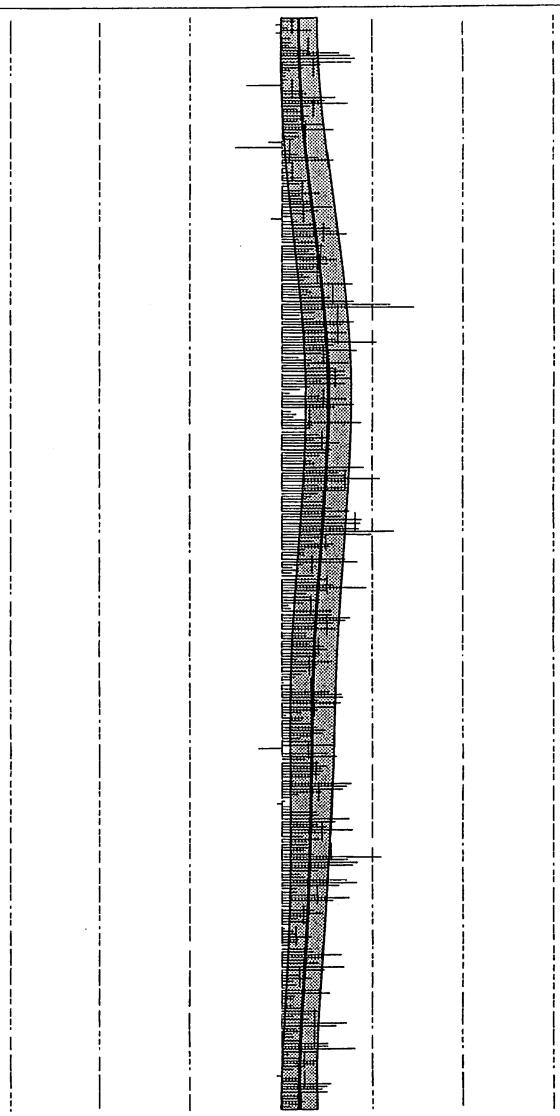
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 27N, 116W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	72	32	-13	12	69	-14	3	23
8 JAN	18	20	14	32	59	127	152	60
15 JAN	163	154	87	50	19	8	10	70
22 JAN	9	5	-77	5	49	53	118	23
29 JAN	95	146	63	34	45	59	53	71
5 FEB.	36	90	52	111	34	39	27	56
12 FEB	-31	3	-101	17	36	79	113	17
19 FEB	23	6	7	27	8	44	53	24
26 FEB	37	12	42	85	40	43	69	47
5 MAR	71	110	83	50	17	-23	35	49
12 MAR	77	107	122	144	82	38	83	93
19 MAR	93	72	61	73	98	121	103	88
26 MAR	77	72	87	49	60	47	158	79
2 APR	92	59	64	58	108	160	239	111
9 APR	294	90	75	41	70	159	136	123
16 APR	97	91	140	101	117	211	114	124
23 APR	91	165	88	39	65	147	62	94
30 APR	112	141	138	151	88	139	63	119
7 MAY	39	19	81	140	106	159	115	94
14 MAY	20	32	25	58	177	69	61	63
21 MAY	55	82	97	70	125	89	109	90
28 MAY	96	83	46	66	73	181	144	98
4 JUN	127	137	219	138	80	131	142	139
11 JUN	81	69	54	98	96	111	149	94
18 JUN	100	129	176	174	135	170	247	161
25 JUN	200	98	72	113	105	52	50	98
2 JUL	48	140	167	45	23	38	24	69
9 JUL	71	99	85	112	187	100	53	101
16 JUL	65	85	49	16	22	106	109	64
23 JUL	151	140	114	79	119	53	53	101
30 JUL	74	77	63	94	100	84	80	82
6 AUG	35	110	80	76	55	44	30	61
13 AUG	23	4	24	30	105	131	135	64
20 AUG	83	129	119	78	44	9	48	73
27 AUG	44	64	79	95	90	65	40	68
3 SEP	69	117	-48	-1	102	122	55	59
10 SEP	81	99	89	90	83	66	27	77
17 SEP	154	144	135	91	34	16	8	83
24 SEP	-10	19	21	76	82	150	119	65
1 OCT	83	100	158	102	47	83	56	90
8 OCT	58	57	49	72	221	147	167	110
15 OCT	158	102	80	37	51	142	164	105
22 OCT	128	31	34	81	150	113	19	79
29 OCT	23	70	90	45	34	56	19	48
5 NOV	8	26	33	65	39	35	12	31
12 NOV	64	72	131	94	58	82	137	91
19 NOV	97	15	40	66	27	31	8	41
26 NOV	87	107	30	25	13	26	41	47
3 DEC	78	65	25	59	144	120	33	75
10 DEC	42	23	26	44	104	106	164	72
17 DEC	75	18	39	79	73	50	24	51
24 DEC	-2	-11	35	41	110	102	92	52
31 DEC	100	42	39	52	35	18	21	44

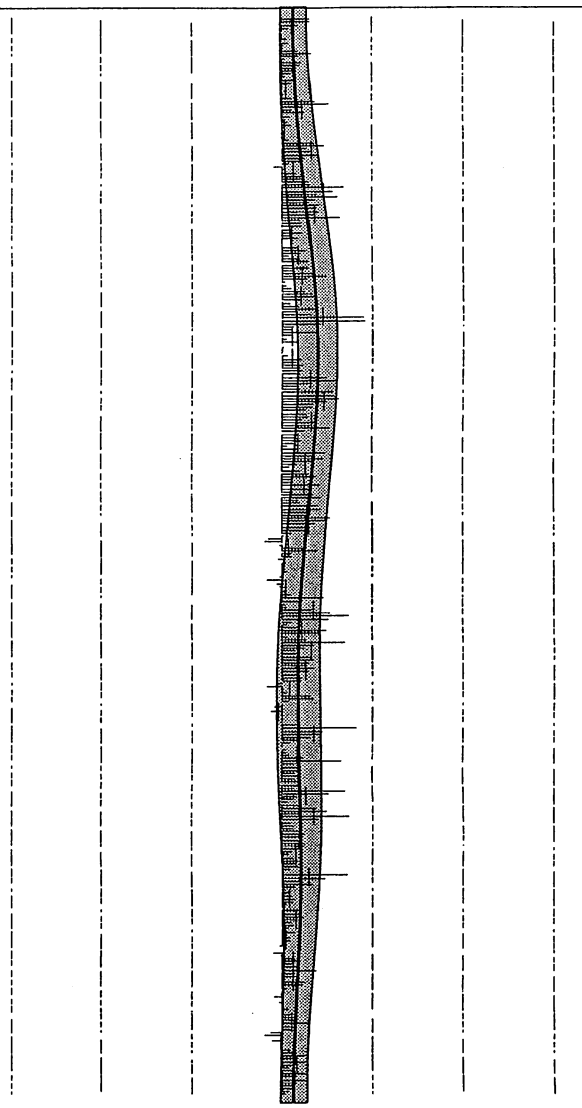


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	63	62	39	15	1	-5	-2	25
12 JAN	9	17	8	4	39	67	37	26
19 JAN	7	42	42	32	31	20	7	26
26 JAN	33	20	0	-2	-2	3	23	11
2 FEB	73	105	48	24	50	19	6	46
9 FEB	14	21	3	0	-1	0	15	7
16 FEB	70	94	54	63	77	52	41	65
23 FEB	15	-18	3	32	43	42	60	25
2 MAR	63	137	113	80	125	73	64	94
9 MAR	83	76	79	71	129	41	43	74
16 MAR	43	25	45	20	36	-1	0	24
23 MAR	38	51	34	16	40	56	24	37
30 MAR	56	25	68	98	58	7	10	46
6 APR	20	53	68	71	40	19	38	44
13 APR	67	30	63	183	185	86	27	91
20 APR	23	77	21	9	36	3	4	24
27 APR	0	-2	12	44	31	45	41	25
4 MAY	45	41	99	117	68	32	40	63
11 MAY	113	115	125	102	69	68	55	92
18 MAY	56	56	45	72	62	106	51	64
25 MAY	29	28	43	26	14	35	97	39
1 JUN	74	93	68	35	19	41	59	56
8 JUN	78	22	27	82	59	28	72	52
15 JUN	84	36	40	80	86	57	61	63
22 JUN	106	97	73	63	57	21	6	60
29 JUN	-29	-37	-4	57	78	22	23	16
6 JUL	-6	9	3	5	14	1	-4	3
13 JUL	-33	-9	-5	-3	8	21	94	11
20 JUL	47	7	13	66	106	149	105	70
27 JUL	24	12	32	99	84	14	53	45
3 AUG	141	70	54	32	32	65	71	66
10 AUG	60	58	72	60	32	45	47	53
17 AUG	-6	-33	3	10	63	69	17	18
24 AUG	3	-15	-24	-2	0	-2	-5	-7
31 AUG	39	166	89	83	63	39	17	71
7 SEP	-1	10	9	16	48	132	27	34
14 SEP	42	37	30	38	30	43	36	37
21 SEP	30	141	103	35	26	12	39	55
28 SEP	78	99	41	150	81	20	28	71
5 OCT	26	42	50	45	38	50	51	43
12 OCT	45	24	15	26	37	32	37	31
19 OCT	22	4	145	97	45	67	29	58
26 OCT	7	19	24	30	27	11	1	17
2 NOV	42	44	49	35	21	26	16	33
9 NOV	29	2	19	19	8	-3	1	11
16 NOV	-17	-3	31	42	25	37	77	27
23 NOV	29	29	6	51	45	14	8	26
30 NOV	-2	-15	1	-3	1	16	3	0
7 DEC	18	22	31	60	28	21	-23	22
14 DEC	-37	4	-22	-1	3	17	35	0
21 DEC	53	22	50	21	18	29	51	35
28 DEC	36	53	36	22	25	17	6	28

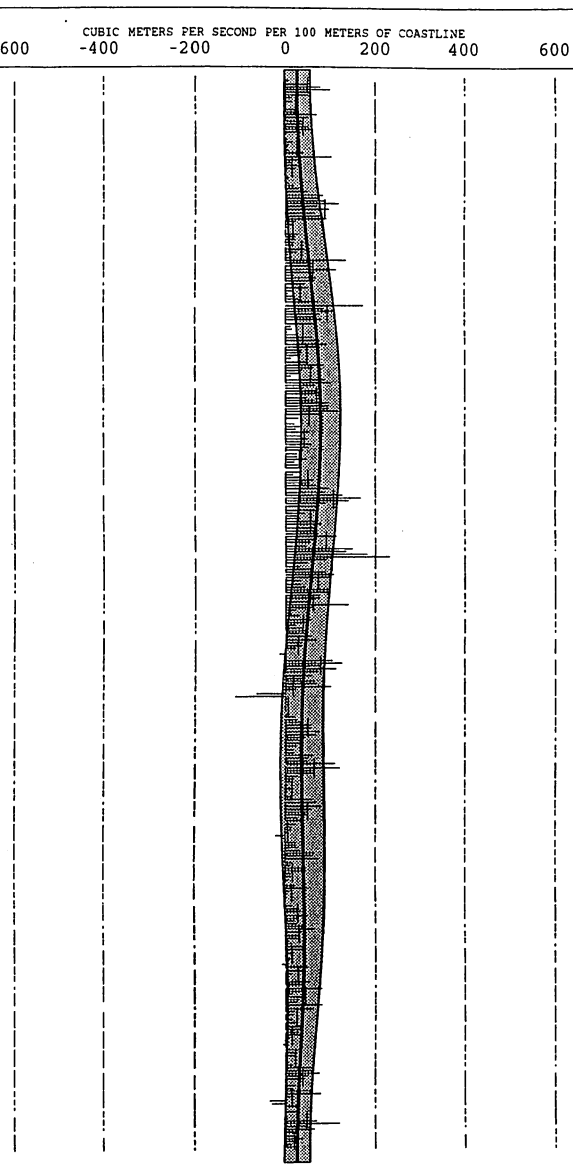


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1987 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	1	10	57	79	98	58	53	51
11 JAN	16	15	2	0	26	32	71	23
18 JAN	52	41	41	52	57	34	0	40
25 JAN	4	15	7	4	7	40	103	26
1 FEB	28	13	26	23	4	-2	7	14
8 FEB	-1	8	18	30	49	82	76	37
15 FEB	89	117	71	95	64	78	91	86
22 FEB	23	15	5	1	26	25	24	17
1 MAR	20	18	42	26	7	13	134	37
8 MAR	56	57	114	66	22	68	64	64
15 MAR	43	51	18	8	21	28	74	35
22 MAR	174	83	103	77	63	80	66	92
29 MAR	13	16	4	27	60	78	90	41
5 APR	76	37	39	36	13	47	85	47
12 APR	61	38	28	12	89	99	67	56
19 APR	40	69	80	45	67	96	96	70
26 APR	97	116	80	29	2	21	31	53
3 MAY	23	54	36	47	38	57	53	44
10 MAY	40	27	27	48	20	29	37	33
17 MAY	32	18	32	62	56	68	97	52
24 MAY	88	128	169	140	86	69	67	107
31 MAY	42	30	35	67	83	68	72	57
7 JUN	74	112	63	57	45	149	136	91
14 JUN	181	232	90	49	31	57	87	104
21 JUN	108	101	34	34	44	98	99	74
28 JUN	76	77	57	140	60	23	12	63
5 JUL	32	58	43	21	39	43	42	40
12 JUL	57	68	37	38	23	2	-12	30
19 JUL	0	104	125	80	113	74	61	80
26 JUL	39	66	70	101	25	-63	-109	18
2 AUG	3	4	8	0	1	10	21	7
9 AUG	26	36	57	58	76	69	45	52
16 AUG	34	37	24	17	21	59	52	35
23 AUG	47	109	121	65	64	26	21	65
30 AUG	11	3	13	3	3	16	60	15
6 SEP	67	79	59	45	49	26	36	52
13 SEP	24	17	13	6	-20	-5	23	8
20 SEP	24	30	36	66	62	73	19	44
27 SEP	12	45	49	13	12	6	0	19
4 OCT	24	49		10	7	4	0	16
11 OCT	16	31	35	52	29	21	28	30
18 OCT	43	65	39	33	26	11	14	33
25 OCT	40	40	19	5	9	7	-7	16
1 NOV	49	40	13	10	7	53	38	30
8 NOV	82	39	16	37	32	26	81	45
15 NOV	64	22	16	6	16	21	36	26
22 NOV	31	28	38	11	-3	-4	1	15
29 NOV	29	27	22	5	8	18	60	24
6 DEC	60	76	51	44	3	24	18	39
13 DEC	62	80	10	-36	-30	28	1	16
20 DEC	32	0	5	70	122	49	64	49
27 DEC	24	23	39	28	13	13	1	20



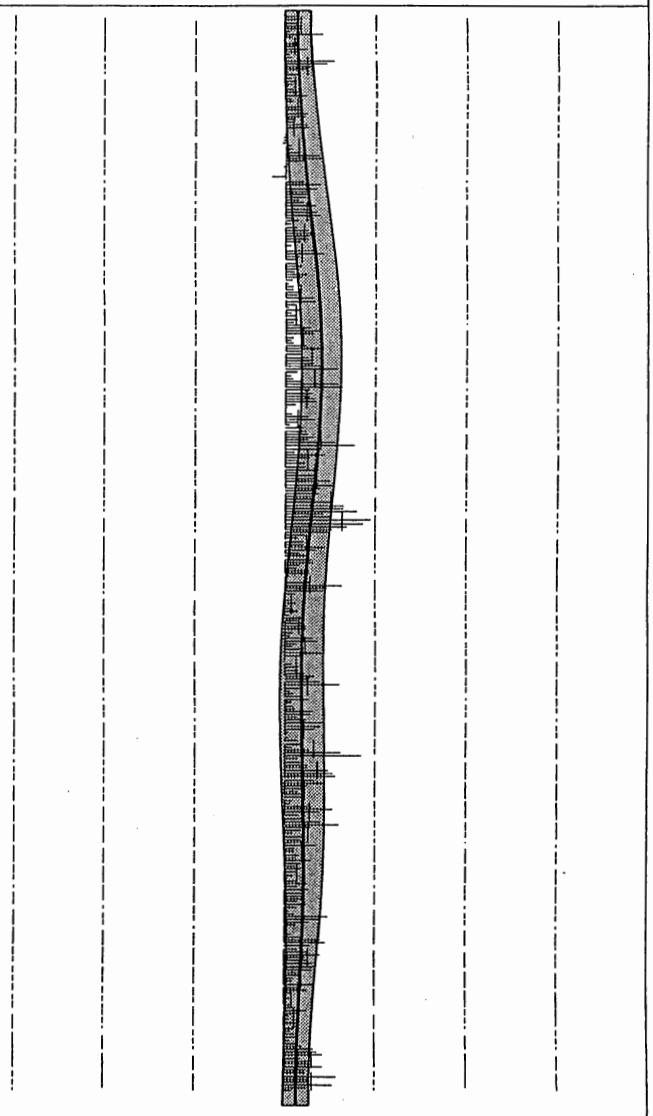
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	20	30	29	32	33	10	82	34
10 JAN	14	2	28	27	50	22	9	22
17 JAN	12	107	91	61	45	4	30	50
24 JAN	13	24	12	4	16	36	46	22
31 JAN	13	15	0	35	33	48	47	27
7 FEB	20	15	48	51	5	-2	-6	19
14 FEB	-4	-6	12	17	31	73	78	29
21 FEB	41	7	-5	4	-1	-29	1	3
28 FEB	40	76	69	45	48	45	29	50
6 MAR	40	65	56	68	76	14	28	50
13 MAR	13	27	51	69	54	51	31	42
20 MAR	14	3	69	84	33	25	28	36
27 MAR	34	25	22	49	39	16	8	27
3 APR	17	19	28	26	62	66	24	34
10 APR	6	33	12	24	27	19	38	23
17 APR	57	78	60	17	14	17	47	41
24 APR	86	35	38	48	55	61	86	58
1 MAY	115	26	13	17	41	115	125	65
8 MAY	58	60	58	66	68	23	3	48
15 MAY	2	15	51	66	29	9	39	30
22 MAY	50	50	64	52	110	153	78	79
29 MAY	20	87	56	27	45	47	75	51
5 JUN	23	64	63	98	104	78	62	70
12 JUN	75	63	60	104	129	129	160	103
19 JUN	84	100	191	173	136	104	96	126
26 JUN	43	30	41	44	87	69	32	49
3 JUL	54	59	62	32	26	56	55	49
10 JUL	9	5	56	126	93	84	25	57
17 JUL	2	9	24	7	17	29	11	14
24 JUL	37	32	39	45	48	17	12	33
31 JUL	61	71	27	17	32	88	34	47
7 AUG	-2	-4	14	33	30	42	67	26
14 AUG	55	76	121	33	9	21	41	51
21 AUG	55	16	17	25	63	57	29	37
28 AUG	49	83	79	65	8	6	8	42
4 SEP	29	39	16	54	124	172	29	66
11 SEP	35	52	47	95	108	111	66	73
18 SEP	88	51	45	31	37	41	19	45
25 SEP	12	59	106	77	33	42	79	58
2 OCT	122	60	37	22	45	38	57	54
9 OCT	72	25	20	32	27	60	39	39
16 OCT	23	39	26	20	8	27	53	28
23 OCT	30	54	47	47	42	30	48	43
30 OCT	26	11	20	96	76	57	26	44
6 NOV	7	6	16	36	80	90	56	42
13 NOV	30	50	79	47	51	63	64	55
20 NOV	62	34	34	21	18	67	37	39
27 NOV	50	16	0	14	8	15	25	18
4 DEC	53	35	13	12	26	5	22	24
11 DEC	15	23	26	11	32	42	66	31
18 DEC	73	84	38	50	60	84	46	62
25 DEC	47	115	57	53	107	50	18	64



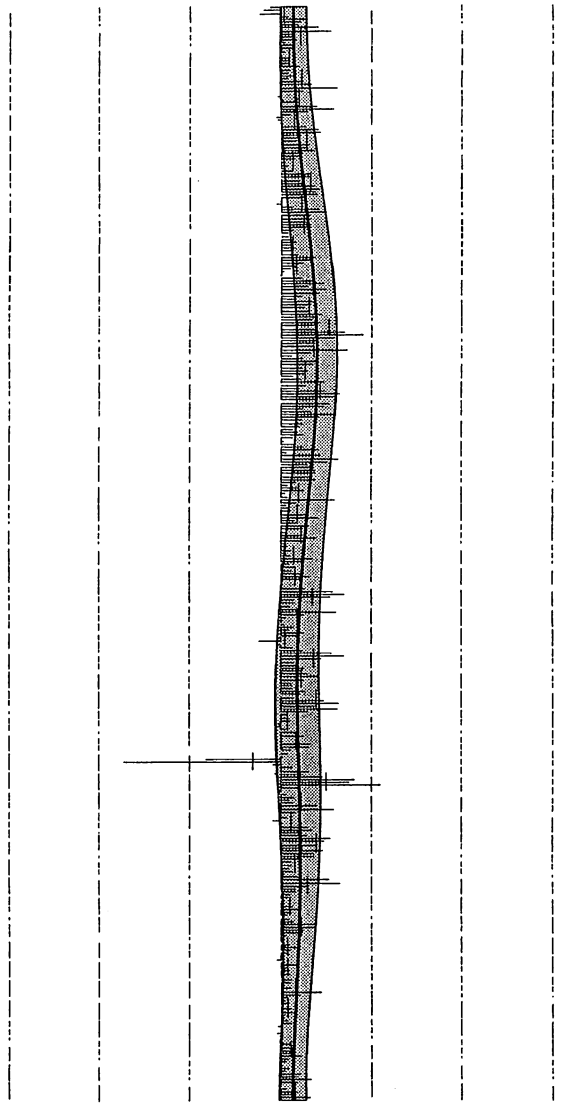
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	-24	-37	-45	16	55	43	39	6
8 JAN	82	109	24	29	34	7	28	44
15 JAN	27	8	0	21	18	15	41	19
22 JAN	20	14	29	15	49	69	123	45
29 JAN	48	-1	-7	3	36	79	115	39
5 FEB	61	22	-11	-7	-2	55	82	29
12 FEB	89	44	37	31	63	60	73	57
19 FEB	48	43	33	11	16	5	26	26
26 FEB	62	61	41	53	75	86	77	65
5 MAR	79	50	-1	-9	23	84	102	47
12 MAR	65	66	54	68	68	25	15	51
19 MAR	16	26	34	26	31	24	36	28
26 MAR	76	67	48	31	22	6	-1	35
2 APR	45	73	95	61	100	85	46	72
9 APR	30	69	64	53	59	90	80	64
16 APR	69	87	73	73	141	181	119	106
23 APR	82	75	74	145	65	23	50	73
30 APR	78	70	45	59	54	26	44	54
7 MAY	95	53	42	96	128	116	80	87
14 MAY	108	92	50	65	118	85	47	80
21 MAY	45	39	26	38	49	25	7	33
28 MAY	29	51	81	12	87	126	105	70
4 JUN	57	73	76	75	63	77	34	65
11 JUN	17	38	52	10	15	121	35	41
18 JUN	11	15	21	57	83	31	37	36
25 JUN	62	52	13	44	79	55	10	45
2 JUL	16	25	12	22	70	49	19	30
9 JUL	28	24	50	63	43	3	4	31
16 JUL	55	116	140	111	29	27	21	71
23 JUL	35	124	52	11	2	8	28	37
30 JUL	18	51	34	-6	-47	-7	27	10
6 AUG	48	113	141	91	29	39	54	73
13 AUG	49	59	83	52	23	28	26	46
20 AUG	53	44	28	96	129	78	128	80
27 AUG	61	12	12	20	-5	-6	9	15
3 SEP	32	52	4	7	65	63	24	35
10 SEP	17	4	-164	-343	-16	27	63	-59
17 SEP	52	94	162	153	222	42	-6	103
24 SEP	13	28	18	27	80	118	31	45
1 OCT	-1	11	-16	7	59	68	44	25
8 OCT	58	109	96	77	47	92	73	79
15 OCT	74	47	24	25	19	27	10	32
22 OCT	37	108	133	57	34	32	20	60
29 OCT	19	6	8	27	40	23	16	20
5 NOV	19	30	79	74	51	47	11	45
12 NOV	4	5	21	44	20	14	-2	15
19 NOV	-7	10	38	13	20	20	6	14
26 NOV	23	21	6	20	90	46	14	31
3 DEC	10	18	2	24	30	9	7	14
10 DEC	15	23	-4	5	-8	-2	4	5
17 DEC	-1	20	33	30	26	46	14	24
24 DEC	9	5	18	9	42	40	68	27
31 DEC	37	3	13	37	32	66	44	33

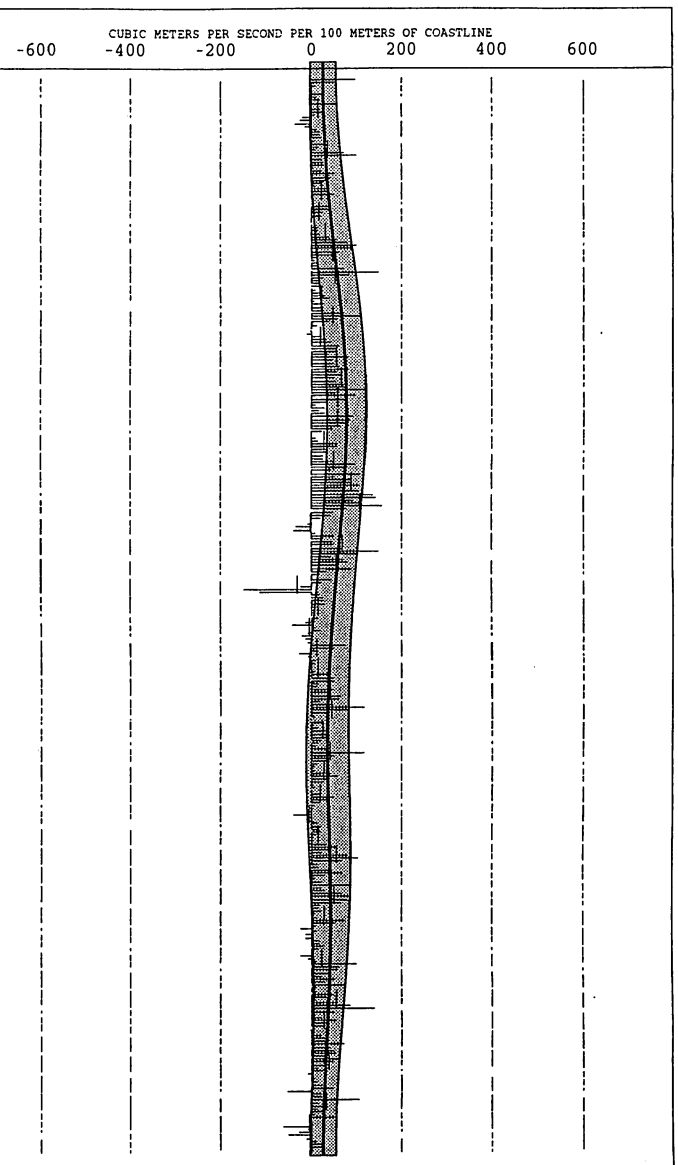


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1990 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	97	54	9	0	6	22	13	29
14 JAN	21	54	-1	22	25	9	-19	16
21 JAN	-24	-34	-14	13	22	17	24	0
28 JAN	6	27	17	9	72	102	24	37
4 FEB	28	28	5	25	55	44	32	31
11 FEB	23	9	40	41	51	5	4	25
18 FEB	4	39	37	27	23	-2	0	18
25 FEB	2	15	15	17	41	56	78	32
4 MAR	101	91	63	51	11	8	12	48
11 MAR	16	73	150	86	26	20	15	55
18 MAR	26	9	19	33	40	8	29	23
25 MAR	28	28	74	109	57	40	11	50
1 APR	-1	-1	-9	25	33	42	64	22
8 APR	55	56	40	83	46	49	62	56
15 APR	85	58	64	51	55	80	83	68
22 APR	121	55	95	79	34	9	28	60
29 APR	19	31	93	87	76	66	49	60
6 MAY	23	2	11	14	61	56	31	28
13 MAY	37	28	27	49	99	81	45	52
20 MAY	110	54	89	88	110	75	106	90
27 MAY	138	144	93	108	156	80	48	110
3 JUN	42	21	2	-7	-31	-38	10	0
10 JUN	51	27	46	52	67	148	108	71
17 JUN	43	72	81	59	91	34	14	56
24 JUN	2	45	23	-23	-150	-114	19	-28
1 JUL	26	29	29	7	6	6	3	15
8 JUL	16	-13	-41	9	20	-7	-21	-5
15 JUL	-13	-6	78	52	11	-26	-6	13
22 JUL	10	8	3	-4	7	42	50	16
29 JUL	51	17	13	52	34	65	64	42
5 AUG	19	50	117	82	38	11	-1	45
12 AUG	26	8	16	32	40	35	21	25
19 AUG	17	10	39	119	50	33	41	44
26 AUG	14	6	8	45	61	42	29	29
2 SEP	0	7	1	18	53	40	21	20
9 SEP	8	3	-9	-38	-5	2	14	-4
16 SEP	20	19	21	9	5	-3	35	15
23 SEP	57	44	25	79	105	69	13	56
30 SEP	15	37	72	31	8	24	90	39
7 OCT	22	29	67	82	80	66	20	52
14 OCT	15	22	11	13	75	53	10	28
21 OCT	-23	12	-12	-14	18	19	28	4
28 OCT	15	1	-23	-6	12	102	63	23
4 NOV	57	39	25	54	29	76	12	42
11 NOV	10	53	35	9	56	87	142	56
18 NOV	52	9	24	57	31	28	-2	28
25 NOV	2	24	38	32	74	43	51	38
2 DEC	57	32	60	50	38	19	26	40
9 DEC	-7	3	8	12	24	49	-52	5
16 DEC	20	24	108	18	37	15	23	35
23 DEC	6	55	2	5	-60	-7	-26	-4
30 DEC	-50	-9	9	23	30	4	-5	0



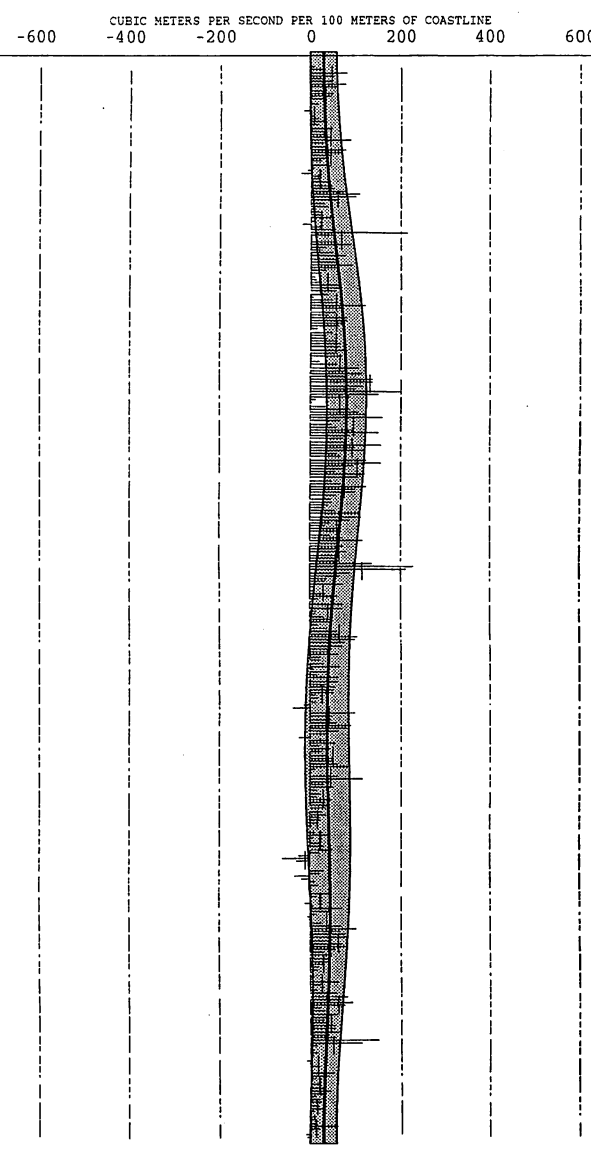
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	7	32	80	51	32	46	76	46
13 JAN	57	32	45	43	31	-1	16	32
20 JAN	-6	-16	-4	4	15	35	18	7
27 JAN	45	36	28	42	88	25	32	42
3 FEB	76	69	47	33	25	37	6	42
10 FEB	-8	-22	20	20	42	50	53	22
17 FEB	80	106	97	60	29	39	12	60
24 FEB	19	25	55	6	-19	24	55	24
3 MAR	215	54	4	59	89	33	27	69
10 MAR	50	76	58	57	94	55	33	60
17 MAR	21	9	12	25	67	67	57	37
24 MAR	39	8	48	59	121	66	54	56
31 MAR	41	78	79	72	64	16	50	57
7 APR	35	37	55	64	66	81	60	57
14 APR	67	5	20	60	108	82	111	65
21 APR	75	139	137	114	102	199	151	131
28 APR	90	14	6	38	88	108	122	66
5 MAY	159	66	45	57	96	152	88	94
12 MAY	73	78	157	99	122	59	68	94
19 MAY	124	158	94	73	53	121	100	103
26 MAY	50	67	124	99	99	58	47	78
2 JUN	47	41	33	55	111	112	89	70
9 JUN	42	32	55	69	42	73	114	61
16 JUN	61	73	56	79	66	63	66	66
23 JUN	137	229	214	87	66	38	31	115
30 JUN	73	9	12	35	59	18	3	30
7 JUL	71	72	15	13	29	41	49	41
14 JUL	18	39	61	66	103	99	77	66
21 JUL	70	48	44	62	24	21	29	42
28 JUL	65	9	34	16	62	59	40	41
4 AUG	56	52	52	12	19	12	-14	27
11 AUG	-38	3	99	48	47	57	91	44
18 AUG	78	63	40	-24	35	58	21	39
25 AUG	46	28	34	51	51	59	84	50
1 SEP	13	4	61	115	44	30	52	45
8 SEP	14	23	16	48	31	43	36	30
15 SEP	27	35	21	23	15	5	0	18
22 SEP	12	37	6	4	20	30	49	22
29 SEP	20	-23	-61	-31	-3	3	30	-9
6 OCT	21	-33	-19	13	18	1	-2	0
13 OCT	44	15	3	-10	9	70	43	25
20 OCT	16	-5	-3	24	68	100	68	38
27 OCT	77	78	41	70	81	53	29	61
3 NOV	50	41	40	32	17	15	3	28
10 NOV	9	4	63	24	10	16	58	26
17 NOV	83	68	94	76	25	32	61	63
24 NOV	42	29	41	54	53	62	41	46
1 DEC	58	151	112	14	9	18	7	53
8 DEC	4	-7	-2	22	7	52	41	17
15 DEC	11	3	17	28	44	26	12	20
22 DEC	22	23	18	30	10	2	10	16
29 DEC	11	14	60	22	1	-10	-7	13

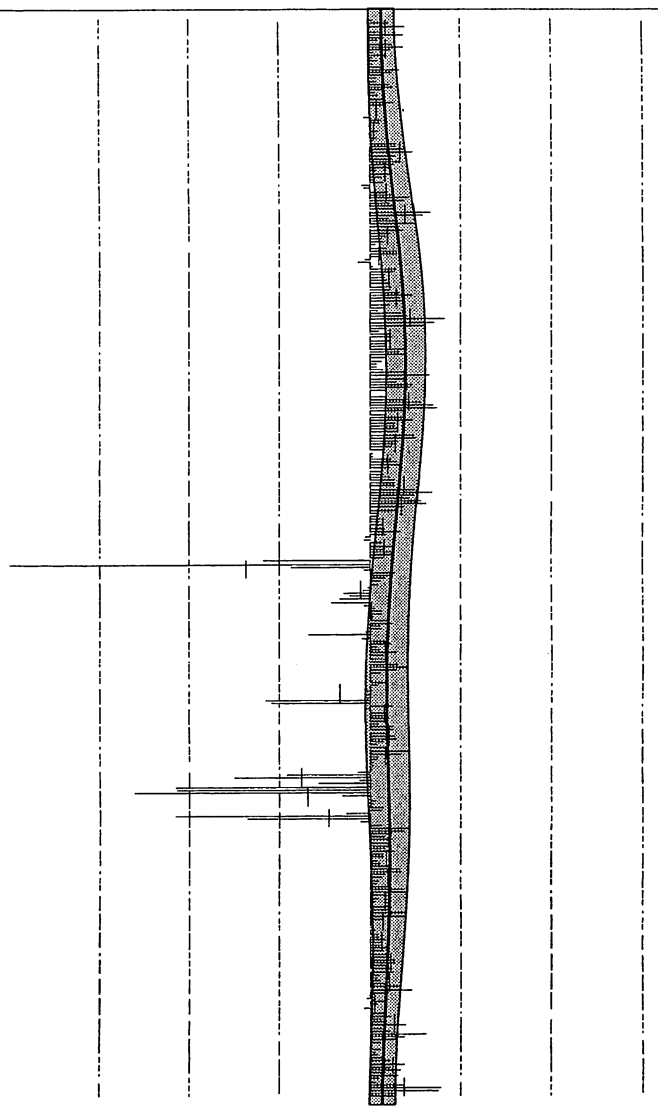


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1992 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	8	46	78	1	29	75	35	39
12 JAN	19	53	77	48	9	41	8	36
19 JAN	17	8	33	68	50	29	14	31
26 JAN	16	44	54	33	13	17	30	30
2 FEB	52	39	-2	3	-2	-13	26	15
9 FEB	22	-1	5	20	-3	15	7	9
16 FEB	59	57	78	96	58	50	69	67
23 FEB	54	48	17	50	27	13	30	34
1 MAR	-17	-14	41	49	87	77	46	38
8 MAR	52	58	136	118	44	55	100	80
15 MAR	69	73	45	34	26	31	11	41
22 MAR	37	61	60	23	-10	-26	8	22
29 MAR	57	54	33	34	38	45	49	44
5 APR	46	69	92	68	74	42	33	60
12 APR	17	71	86	165	144	122	31	91
19 APR	20	44	50	46	34	38	81	45
26 APR	68	78	37	26	15	16	30	38
3 MAY	81	132	76	59	92	91	39	81
10 MAY	0	35	89	114	141	149	78	86
17 MAY	32	77	96	57	58	61	63	63
24 MAY	100	101	64	55	48	32	6	58
31 MAY	7	50	60	72	46	25	32	42
7 JUN	46	53	54	53	98	139	99	77
14 JUN	87	114	123	77	63	21	19	72
21 JUN	23	21	28	33	69	35	-11	28
28 JUN	-12	25	50	32	53	49	32	33
5 JUL	-236	-1637	-173	-13	57	51	35	-274
12 JUL	24	21	-5	-15	-58	-43	-64	-20
19 JUL	-85	-13	11	27	28	10	43	3
26 JUL	49	22	27	-9	-134	-17	33	-4
2 AUG	46	16	20	59	29	26	39	33
9 AUG	63	85	61	24	-2	1	38	38
16 AUG	17	-1	-6	-9	-8	-228	-215	-64
23 AUG	49	-10	34	40	44	42	21	31
30 AUG	52	52	44	56	56	32	15	43
6 SEP	32	89	67	22	16	7	11	35
13 SEP	5	-25	-183	-299	-25	-113	-429	-153
20 SEP	-426	-522	-60	3	12	8	28	-137
27 SEP	26	-51	-430	-272	-21	28	87	-91
4 OCT	77	47	32	51	42	40	34	46
11 OCT	53	28	31	14	23	40	66	36
18 OCT	68	36	27	19	15	39	76	40
25 OCT	79	37	18	13	2	48	39	33
1 NOV	78	78	31	7	3	5	11	30
8 NOV	17	20	34	27	23	40	29	27
15 NOV	36	45	55	57	37	50	50	47
22 NOV	20	18	24	32	69	93	40	42
29 NOV	-3	-6	33	19	-13	5	31	9
6 DEC	45	23	37	79	27	43	124	54
13 DEC	78	56	23	4	24	12	16	30
20 DEC	26	47	77	45	69	34	62	51
27 DEC	20	14	77	158	151	56	52	75

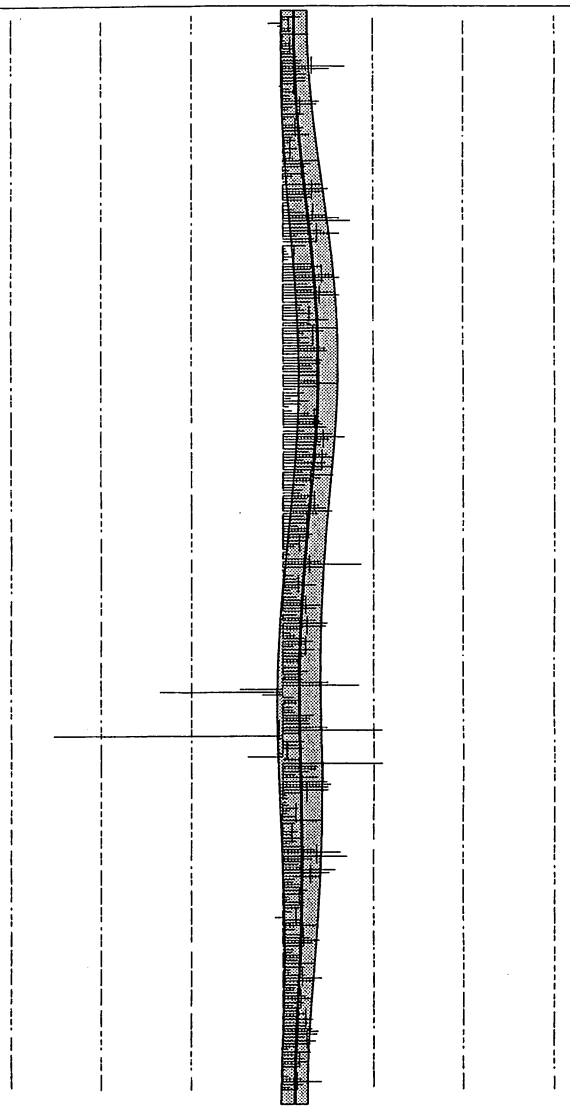


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1993 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	41	12	-29	-10	20	22	61	17
10 JAN	4	6	18	28	25	16	29	18
17 JAN	34	43	41	139	105	41	55	65
24 JAN	53	53	32	-7	15	28	16	27
31 JAN	20	81	76	20	12	49	27	41
7 FEB	10	1	26	46	43	61	23	30
14 FEB	28	15	6	32	21	8	24	19
21 FEB	81	63	51	16	54	24	5	42
28 FEB	13	84	102	94	62	65	43	66
7 MAR	12	14	26	50	96	126	147	67
14 MAR	68	63	88	125	31	72	79	75
21 MAR	52	6	10	12	22	12	66	26
28 MAR	92	63	70	110	126	90	58	87
4 APR	76	65	111	127	83	62	42	81
11 APR	39	48	67	41	100	57	74	61
18 APR	117	91	46	57	40	60	69	69
25 APR	97	98	32	69	88	86	64	76
2 MAY	66	81	79	33	78	121	73	76
9 MAY	29	45	39	18	58	41	12	35
16 MAY	21	56	79	73	83	87	95	70
23 MAY	47	111	138	100	85	86	74	91
30 MAY	57	101	112	45	95	114	86	87
6 JUN	46	112	85	67	48	29	42	61
13 JUN	38	70	53	52	80	97	110	71
20 JUN	78	45	58	52	33	51	58	53
27 JUN	66	59	51	38	25	11	6	36
4 JUL	17	60	86	173	88	-2	3	61
11 JUL	22	30	39	73	36	14	21	34
18 JUL	30	51	45	81	72	43	30	50
25 JUL	41	70	98	96	43	14	26	55
1 AUG	46	66	49	25	70	56	45	51
8 AUG	31	36	-3	41	55	43	34	34
15 AUG	46	101	167	-93	-268	-43	22	-10
22 AUG	31	28	21	20	27	69	60	36
29 AUG	57	61	100	222	36	-505	-13	-6
5 SEP	45	32	46	1	-13	-76	39	10
12 SEP	221	76	75	58	26	79	98	90
19 SEP	108	102	100	38	9	9	6	53
26 SEP	12	31	15	9	28	84	26	29
3 OCT	-3	4	33	18	45	30	16	20
10 OCT	48	72	128	144	65	43	34	76
17 OCT	42	118	105	81	25	25	37	62
24 OCT	44	55	46	12	15	49	45	38
31 OCT	45	18	5	-15	40	45	73	30
7 NOV	26	6	39	60	83	65	40	45
14 NOV	24	22	44	36	32	68	47	39
21 NOV	17	15	49	88	71	31	28	43
28 NOV	23	33	48	63	46	21	40	39
5 DEC	33	46	36	67	57	48	65	50
12 DEC	79	77	49	73	62	28	13	54
19 DEC	62	20	47	55	40	36	6	38
26 DEC	-1	11	44	88	42	18	28	33

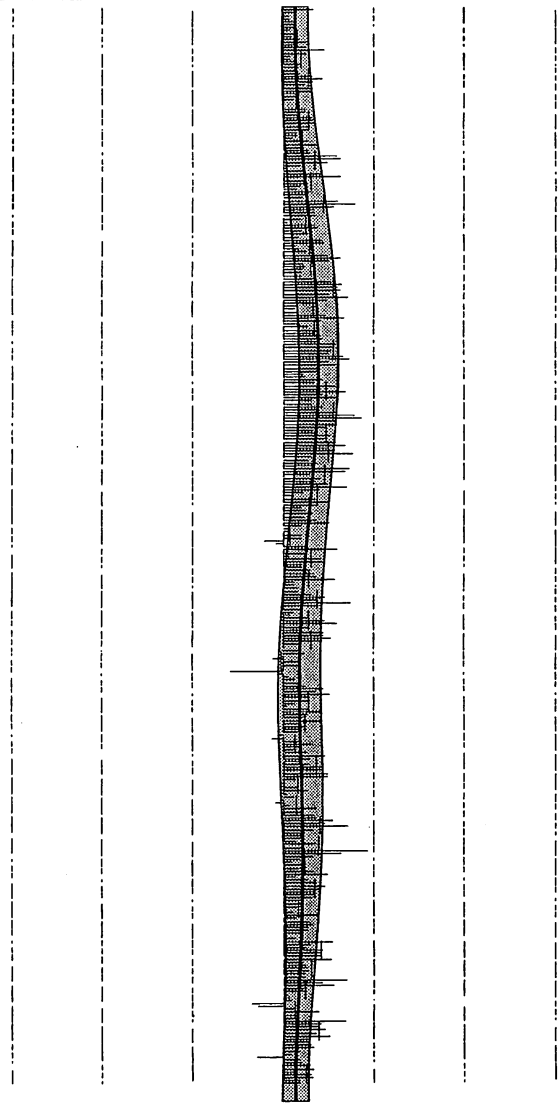


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1994 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	69	29	12	12	22	28	25	28
9 JAN	15	27	17	37	52	27	51	32
16 JAN	92	50	16	15	30	39	36	40
23 JAN	26	36	64	89	69	49	66	57
30 JAN	63	36	30	22	1	-3	49	28
6 FEB	49	38	65	66	70	59	58	58
13 FEB	28	32	22	56	74	45	54	44
20 FEB	60	117	126	99	37	5	49	70
27 FEB	85	126	51	55	38	30	62	64
6 MAR	54	43	122	160	113	69	71	90
13 MAR	72	39	10	70	75	41	57	52
20 MAR	34	89	92	27	34	53	98	61
27 MAR	125	101	43	46	43	40	40	63
3 APR	64	107	130	120	128	104	142	113
10 APR	95	72	29	27	31	96	134	69
17 APR	86	39	56	73	72	85	87	71
24 APR	76	118	109	107	102	132	146	113
1 MAY	103	116	76	74	45	48	86	78
8 MAY	72	115	83	138	88	119	62	97
15 MAY	64	88	76	115	158	173	118	113
22 MAY	121	94	69	74	104	90	117	96
29 MAY	139	99	116	154	62	55	78	100
5 JUN	66	146	137	59	81	73	99	94
12 JUN	140	79	43	25	73	101	81	77
19 JUN	39	49	67	47	73	104	40	60
26 JUN	16	11	40	39	-39	-15	51	15
3 JUL	121	45	12	85	87	43	39	62
10 JUL	60	70	73	117	28	24	30	57
17 JUL	32	62	94	77	148	75	42	76
24 JUL	25	15	53	92	121	58	33	57
31 JUL	91	91	107	87	34	5	31	64
7 AUG	47	1	-20	33	32	-5	-116	-4
14 AUG	-7	13	27	40	53	90	74	41
21 AUG	104	58	60	27	9	55	81	56
28 AUG	55	44	88	33	45	36	32	48
4 SEP	-11	-24	41	65	36	24	54	26
11 SEP	94	59	40	58	84	81	97	73
18 SEP	99	25	1	4	34	56	7	32
25 SEP	23	-6	-16	12	74	41	69	28
2 OCT	72	111	94	142	65	46	43	82
9 OCT	38	25	70	47	189	130	65	80
16 OCT	36	19	48	39	68	99	26	48
23 OCT	53	75	92	81	68	68	63	71
30 OCT	37	44	30	6	21	75	29	35
6 NOV	58	67	54	55	42	5	28	44
13 NOV	110	60	53	86	85	85	106	84
20 NOV	43	49	53	56	45	47	139	62
27 NOV	89	112	47	46	10	13	17	48
4 DEC	-69	-53	24	79	35	23	139	25
11 DEC	86	76	93	73	106	60	59	79
18 DEC	62	67	38	17	-58	37	40	29
25 DEC	60	67	31	62	64	37	38	51

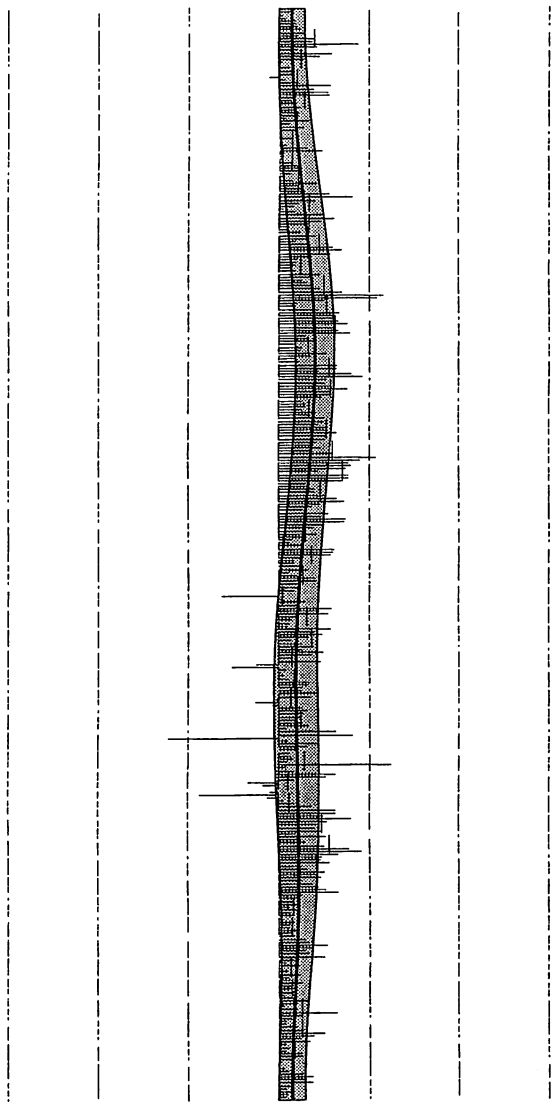


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1995 AT 24N, 113W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	31	20	6	14	36	36	41	26
8 JAN	45	57	44	80	73	178	86	80
15 JAN	40	119	89	56	8	2	24	48
22 JAN	36	30	-22	12	43	115	77	41
29 JAN	109	114	30	25	41	47	37	57
5 FEB	44	43	15	64	20	53	39	40
12 FEB	3	3	27	5	17	63	95	30
19 FEB	10	9	9	28	42	52	49	28
26 FEB	23	9	28	83	40	50	61	42
5 MAR	113	162	83	43	32	9	36	68
12 MAR	98	123	93	66	25	19	47	67
19 MAR	82	59	36	72	121	140	115	89
26 MAR	73	39	37	38	29	38	94	50
2 APR	70	52	64	70	92	140	231	103
9 APR	218	101	42	36	88	134	125	106
16 APR	120	133	151	127	133	158	59	126
23 APR	65	82	36	52	47	108	70	66
30 APR	39	45	129	130	91	160	185	111
7 MAY	104	103	118	151	115	118	95	115
14 MAY	48	58	61	52	83	72	102	68
21 MAY	102	88	111	102	129	107	106	106
28 MAY	81	78	94	72	121	215	180	120
4 JUN	154	159	149	88	155	156	144	144
11 JUN	60	60	81	79	104	128	147	94
18 JUN	91	73	55	110	93	148	146	102
25 JUN	102	75	51	83	52	30	24	59
2 JUL	48	124	122	117	49	31	35	75
9 JUL	46	65	20	41	79	83	47	54
16 JUL	44	34	8	-128	11	61	40	10
23 JUL	117	89	111	42	31	24	21	62
30 JUL	116	78	97	64	25	51	77	73
6 AUG	52	100	74	31	94	-50	-105	28
13 AUG	16	6	13	20	65	65	51	34
20 AUG	49	88	71	-5	-52	-12	50	27
27 AUG	63	55	47	39	52	66	16	48
3 SEP	127	163	-244	19	85	63	46	37
10 SEP	23	26	32	17	247	17	31	56
17 SEP	127	106	36	-69	-34	-6	-18	20
24 SEP	-174	-23	12	36	73	126	125	25
1 OCT	100	159	108	91	80	96	37	96
8 OCT	105	50	60	100	157	183	133	112
15 OCT	96	92	113	52	64	101	84	86
22 OCT	92	53	75	88	105	131	50	85
29 OCT	45	31	42	22	38	23	28	33
5 NOV	10	31	24	22	45	30	34	28
12 NOV	56	66	108	70	57	65	101	74
19 NOV	33	17	45	7	17	46	21	27
26 NOV	24	52	26	35	26	12	29	29
3 DEC	63	40	14	39	128	49	25	51
10 DEC	19	15	40	53	101	76	48	50
17 DEC	68	15	21	15	48	52	32	36
24 DEC	7	2	9	22	52	74	59	32
31 DEC	73	23	16	29	18	15	31	29

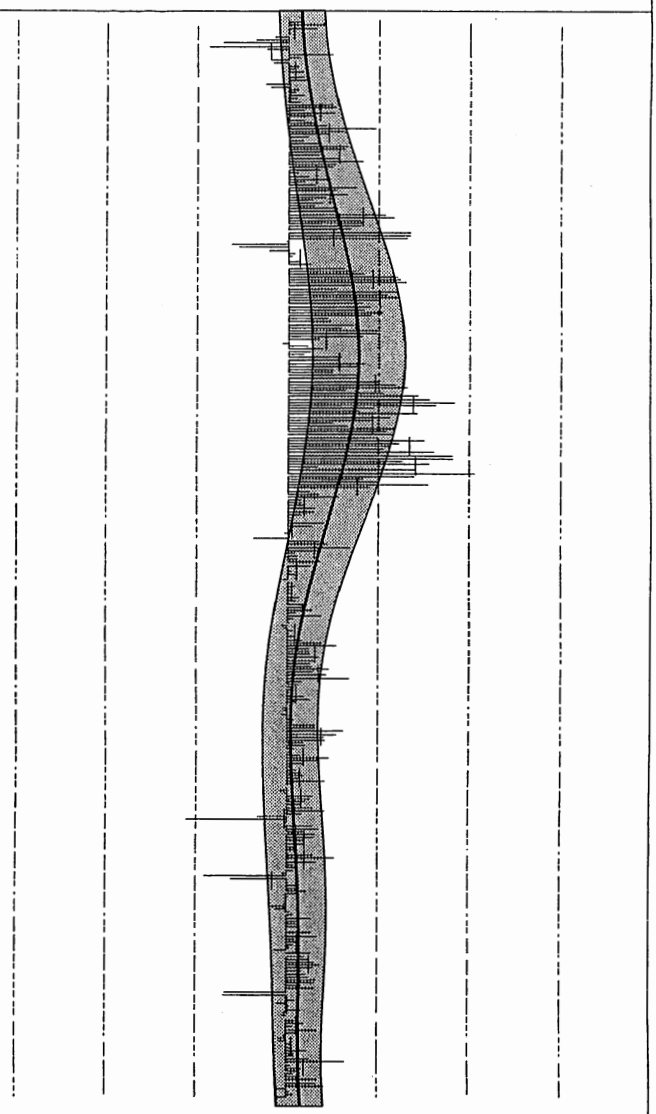


NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS DURING 1986 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	35	80	64	2	4	-30	-70	12
12 JAN	-144	-173	-47	1	99	27	-34	-39
19 JAN	-32	24	14	31	2	35	41	16
26 JAN	-47	-37	24	16	34	20	25	5
2 FEB	98	108	35	104	59	34	59	71
9 FEB	84	193	123	90	42	36	69	91
16 FEB	133	127	73	68	113	165	105	112
23 FEB	99	72	24	46	93	37	59	61
2 MAR	152	111	128	82	53	76	58	94
9 MAR	110	109	214	235	160	166	160	165
16 MAR	139	271	270	262	-5	-123	-108	101
23 MAR	-39	16	9	0	23	48	123	26
30 MAR	148	164	243	248	260	146	110	188
6 APR	241	221	243	204	164	181	169	203
13 APR	210	183	88	97	143	117	198	148
20 APR	197	165	69	-12	44	76	48	84
27 APR	36	118	111	171	155	102	98	113
4 MAY	149	158	201	238	262	127	210	192
11 MAY	287	314	368	327	192	157	285	276
18 MAY	226	184	98	133	234	218	229	189
25 MAY	197	301	247	225	212	323	365	267
1 JUN	365	253	314	65	279	412	281	281
8 JUN	164	202	310	182	49	67	112	155
15 JUN	30	33	34	60	59	29	11	37
22 JUN	7	79	56	11	-7	1	-74	10
29 JUN	72	86	137	71	15	22	20	60
6 JUL	75	51	3	11	17	0	-10	21
13 JUL	6	15	4	4	1	26	20	11
20 JUL	34	40	58	22	76	14	4	35
27 JUL	-9	-8	13	5	17	35	77	18
3 AUG	109	50	47	52	71	61	52	63
10 AUG	57	94	56	87	137	33	27	70
17 AUG	12	7	8	38	51	21	1	20
24 AUG	-6	-6	-9	-3	16	13	59	9
31 AUG	63	123	110	83	85	36	39	77
7 SEP	15	6	29	93	68	38	12	37
14 SEP	22	32	34	29	84	10	-1	30
21 SEP	-12	-3	58	52	40	31	57	32
28 SEP	85	35	-64	-222	-1	58	71	-6
5 OCT	40	63	59	38	37	25	15	39
12 OCT	1	57	107	65	15	21	16	40
19 OCT	-8	-181	-121	5	23	29	46	-30
26 OCT	31	4	-1	-5	-31	-23	7	-3
2 NOV	12	54	28	21	23	3	56	28
9 NOV	69	20	24	15	6	-23	54	24
16 NOV	42	48	62	74	60	34	43	52
23 NOV	48	68	63	36	63	-134	-138	1
30 NOV	-1	22	-19	8	34	-6	-8	4
7 DEC	3	20	41	15	72	24	-5	24
14 DEC	-16	-12	13	15	46	21	17	12
21 DEC	52	130	9	34	28	15	25	42
28 DEC	68	67	85	-19	6	15	-17	29



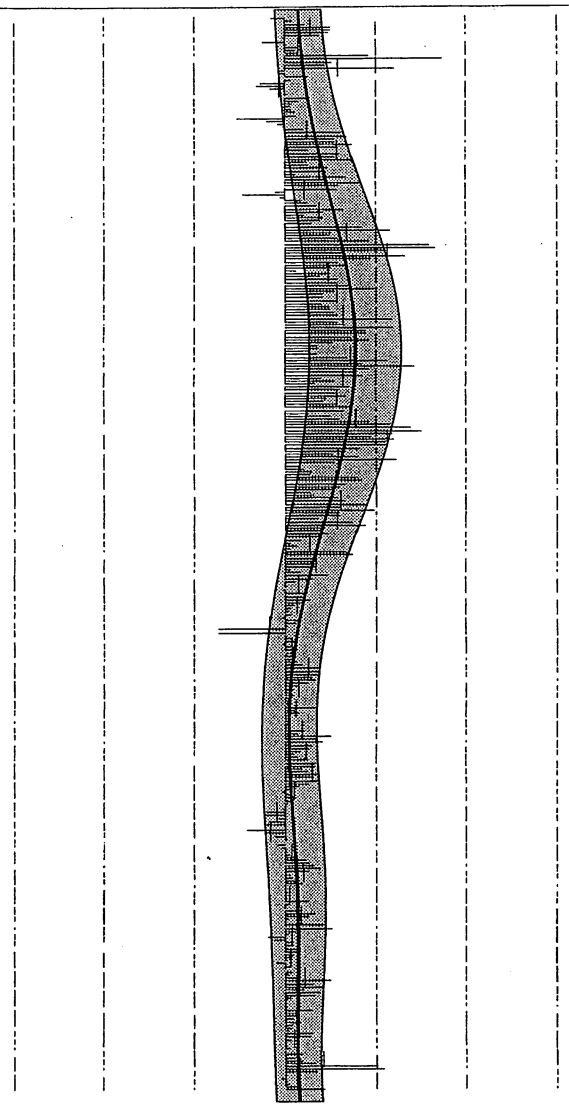
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1987 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
4 JAN	-30	18	44	103	101	95	75	58
11 JAN	-5	-49	3	25	20	28	184	29
18 JAN	350	105	87	242	-6	-12	53	117
25 JAN	13	-54	-63	-33	-1	7	48	-12
1 FEB	29	14	9	12	24	22	-107	1
8 FEB	-41	-16	-6	41	124	137	109	50
15 FEB	111	150	119	52	120	110	146	115
22 FEB	47	51	97	91	21	136	94	76
1 MAR	164	118	114	-21	-92	-9	34	44
8 MAR	49	71	129	84	44	86	76	77
15 MAR	59	169	232	102	99	115	185	137
22 MAR	317	333	225	129	266	190	117	225
29 MAR	134	102	25	101	77	114	115	95
5 APR	141	204	111	83	83	114	79	116
12 APR	95	99	108	117	234	118	135	129
19 APR	238	176	180	147	188	107	70	158
26 APR	74	53	71	141	227	169	287	146
3 MAY	186	153	171	79	106	68	144	129
10 MAY	118	119	135	90	85	114	147	115
17 MAY	129	53	99	120	189	232	280	157
24 MAY	302	238	191	241	221	221	163	225
31 MAY	135	104	159	247	110	31	41	118
7 JUN	59	54	160	168	131	121	101	113
14 JUN	54	62	115	133	178	125	195	123
21 JUN	120	121	74	148	177	88	76	115
28 JUN	93	80	36	12	24	9	135	55
5 JUL	150	71	71	72	66	12	33	68
12 JUL	92	60	21	-1	1	-4	44	30
19 JUL	37	55	40	22	13	7	12	26
26 JUL	-8	34	24	7	-147	-147	2	-34
2 AUG	12	22	-5	13	26	24	23	16
9 AUG	14	26	38	74	77	71	61	51
16 AUG	66	49	27	17	6	22	14	29
23 AUG	14	13	64	21	29	13	7	23
30 AUG	6	6	11	40	26	100	71	37
6 SEP	82	56	53	31	22	25	50	45
13 SEP	67	64	38	48	69	59	71	59
20 SEP	52	30	13	-6	14	24	13	20
27 SEP	3	-1	-5	-40	-44	-13	-36	-19
4 OCT	-47	-2		-85	-45	-20	5	-32
11 OCT	-15	-7	4	9	25	46	51	16
18 OCT	59	78	50	13	16	33	37	41
25 OCT	-1	0	5	2	6	52	9	10
1 NOV	-2	31	66	51	7	-1	84	34
8 NOV	104	23	6	-38	-22	18	17	15
15 NOV	33	26	21	14	3	-19	12	13
22 NOV	2	18	9	30	101	64	82	44
29 NOV	40	76	64	14	0	0	4	28
6 DEC	59	25	26	19	35	15	14	27
13 DEC	7	60	57	12	0	4	9	21
20 DEC	0	38	22	37	69	203	217	84
27 DEC	70	2	-11	4	11	26	87	27



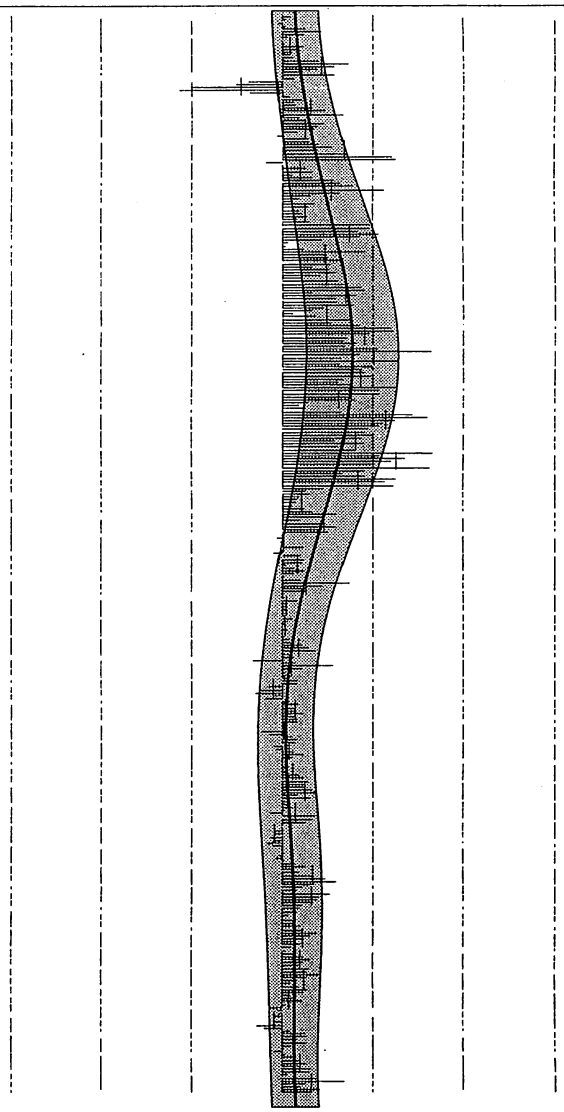
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1988 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	18	10	-6	8	53	87	48	31
10 JAN	9	0	7	47	31	24	17	19
17 JAN	25	83	146	115	78	46	115	87
24 JAN	26	-73	-100	-201	-227	-70	16	-90
31 JAN	43	24	29	69	96	135	37	62
7 FEB	48	93	78	71	32	-10	57	53
14 FEB	59	81	111	79	140	244	253	138
21 FEB	-36	0	54	64	21	67	112	40
28 FEB	130	158	226	127	64	38	24	109
6 MAR	71	56	38	43	56	32	61	51
13 MAR	192	192	166	212	170	89	14	148
20 MAR	7	47	181	98	101	131	106	96
27 MAR	68	104	117	85	43	124	143	97
3 APR	175	182	64	163	119	121	156	140
10 APR	94	64	25	75	153	106	171	98
17 APR	241	245	194	144	139	164	139	181
24 APR	214	330	171	131	256	126	200	204
1 MAY	176	186	195	136	123	150	253	174
8 MAY	212	216	154	159	58	39	49	127
15 MAY	128	288	321	247	225	213	191	230
22 MAY	183	199	176	118	180	123	164	163
29 MAY	331	213	271	241	207	325	181	253
5 JUN	135	182	252	226	245	90	51	169
12 JUN	59	37	33	29	22	49	66	42
19 JUN	118	88	42	96	119	85	101	92
26 JUN	-1	-10	-6	5	47	1	-18	3
3 JUL	39	49	46	8	27	53	28	36
10 JUL	4	40	149	91	47	54	-3	54
17 JUL	5	32	14	9	6	5	7	11
24 JUL	23	11	8	0	11	1	3	8
31 JUL	17	18	46	61	74	21	25	37
7 AUG	-63	28	114	43	7	8	18	22
14 AUG	32	33	-27	-47	-57	-18	-35	-17
21 AUG	15	36	26	31	45	27	33	30
28 AUG	36	5	1	-43	-23	21	32	4
4 SEP	30	-15	-9	23	46	25	-1	14
11 SEP	1	15	4	6	38	45	57	24
18 SEP	49	49	66	77	34	63	17	51
25 SEP	14	23	8	-25	70	66	51	29
2 OCT	0	-2	-14	-19	-24	-17	-33	-16
9 OCT	-18	-1	0	-3	-10	4	30	0
16 OCT	52	27	36	67	96	121	72	67
23 OCT	44	33	106	81	77	67	44	65
30 OCT	40	32	14	3	22	24	41	25
6 NOV	46	79	62	50	29	41	20	47
13 NOV	10	25	48	59	45	39	59	41
20 NOV	55	81	54	35	17	39	57	48
27 NOV	48	19	32	43	6	-25	-8	16
4 DEC	-4	-19	0	-13	-55	-36	19	-15
11 DEC	51	55	34	54	20	4	-17	29
18 DEC	8	27	37	55	39	64	59	41
25 DEC	12	77	137	51	40	85	64	66



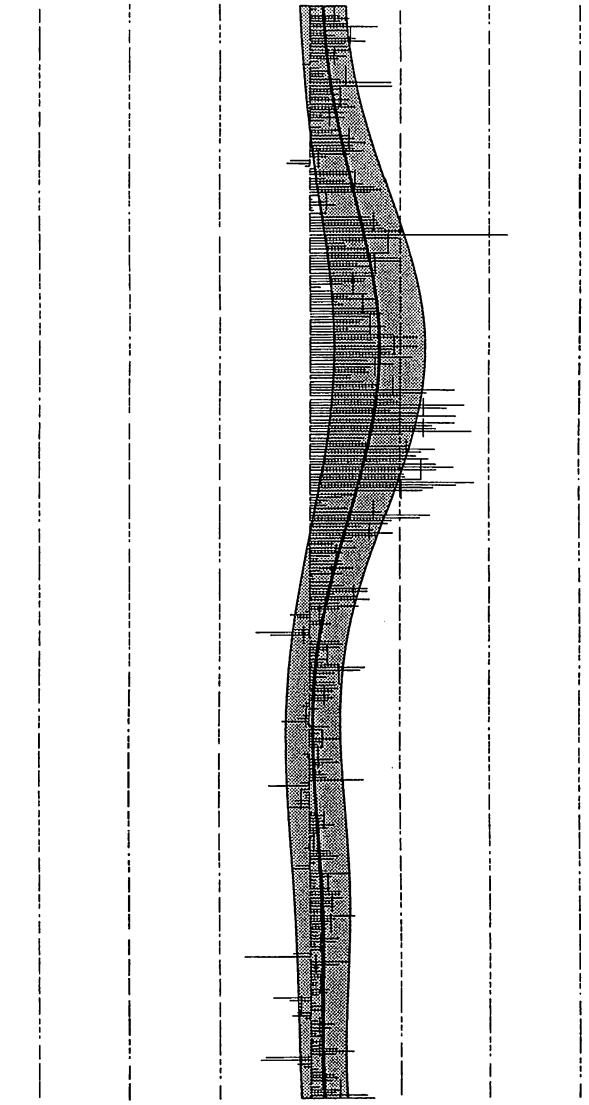
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1989 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	51	16	-2	69	89	64	85	53
8 JAN	151	86	35	54	101	124	77	90
15 JAN	82	90	61	79	64	19	-18	54
22 JAN	21	42	32	30	66	178	182	79
29 JAN	64	47	63	40	85	82	97	68
5 FEB	62	73	29	77	29	0	23	42
12 FEB	65	48	84	99	124	96	96	87
19 FEB	115	88	41	-42	-50	-9	9	22
26 FEB	96	83	33	78	119	142	158	101
5 MAR	134	19	7	33	58	7	9	38
12 MAR	37	131	150	154	156	167	208	143
19 MAR	443	195	121	76	79	128	176	174
26 MAR	143	193	204	104	133	95	148	146
2 APR	147	124	121	72	24	48	126	95
9 APR	84	146	59	72	151	152	164	118
16 APR	134	119	109	168	85	135	186	134
23 APR	241	141	146	237	183	178	189	188
30 APR	226	128	186	135	125	133	90	146
7 MAY	89	118	154	140	325	259	207	184
14 MAY	181	201	346	308	176	238	328	254
21 MAY	210	324	273	281	362	207	120	254
28 MAY	112	135	221	279	250	238	265	214
4 JUN	192	283	321	281	209	214	249	250
11 JUN	368	325	277	252	100	70	37	204
18 JUN	26	34	84	161	269	246	183	143
25 JUN	174	116	139	184	150	94	95	136
2 JUL	54	104	61	72	43	22	70	61
9 JUL	75	97	24	72	8	10	56	49
16 JUL	76	129	130	53	108	135	64	99
23 JUL	110	67	-6	-43	-26	18	49	24
30 JUL	2	-32	-119	-88	4	66	75	-13
6 AUG	66	41	23	22	39	30	66	41
13 AUG	124	113	53	37	14	57	58	65
20 AUG	62	54	43	53	41	-7	-13	33
27 AUG	20	0	-12	-25	-59	-7	43	-6
3 SEP	29	21	6	69	30	19	31	29
10 SEP	2	-13	-5	53	66	29	15	21
17 SEP	27	37	37	121	-17	-91	-17	14
24 SEP	-13	-6	-7	-30	-26	-47	3	-18
1 OCT	12	34	28	34	54	38	23	32
8 OCT	19	12	3	0	-2	-11	43	9
15 OCT	51	63	51	12	-29	-40	36	20
22 OCT	89	47	12	11	9	43	69	40
29 OCT	69	70	48	45	54	23	33	49
5 NOV	98	54	46	37	29	34	17	45
12 NOV	19	62	58	10	31	24	-38	24
19 NOV	-143	-1	86	62	19	25	30	11
26 NOV	33	13	14	11	41	34	17	23
3 DEC	-83	-46	10	25	23	-30	-41	-20
10 DEC	-13	16	52	44	23	10	24	22
17 DEC	6	13	23	57	95	54	-100	21
24 DEC	-109	-30	-15	17	26	51	61	0
31 DEC	45	-2	19	62	55	128	144	64



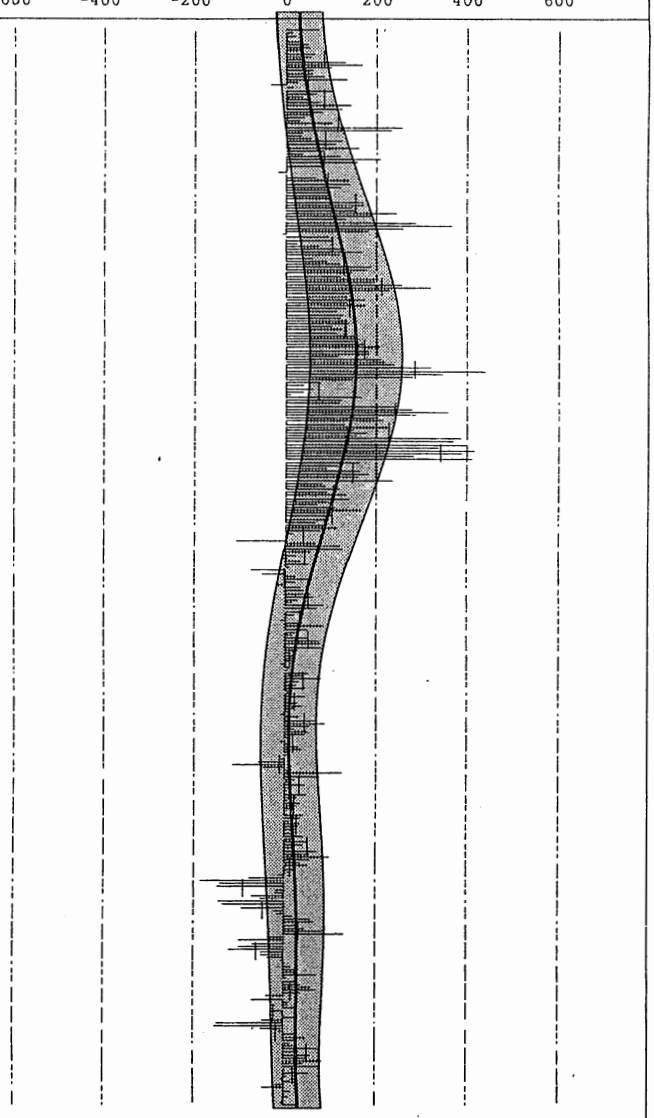
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1990 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
7 JAN	70	13	22	0	37	48	53	35
14 JAN	36	63	56	33	133	167	101	84
21 JAN	60	56	86	135	25	-32	16	49
28 JAN	100	66	37	50	73	144	123	85
4 FEB	79	59	40	30	100	258	233	114
11 FEB	38	35	56	123	110	159	86	87
18 FEB	38	121	211	157	84	4	-16	86
25 FEB	-3	66	137	141	121	95	95	93
4 MAR	98	97	170	170	146	155	246	154
11 MAR	192	133	286	367	260	183	-8	202
18 MAR	96	108	26	75	129	168	122	103
25 MAR	60	93	121	187	181	147	120	130
1 APR	202	196	256	321	229	144	135	212
8 APR	173	135	178	131	113	126	121	140
15 APR	126	139	100	124	114	153	162	131
22 APR	158	170	208	181	181	116	209	175
29 APR	220	241	322	442	345	279	146	285
6 MAY	71	41	59	40	12	164	124	73
13 MAY	120	240	279	360	289	205	216	244
20 MAY	128	228	149	176	161	386	372	228
27 MAY	402	337	418	389	283	413	162	344
3 JUN	115	92	163	186	164	237	81	148
10 JUN	89	120	94	135	141	95	72	106
17 JUN	110	168	103	104	94	67	88	105
24 JUN	115	76	19	1	-106	65	121	41
1 JUL	125	58	23	4	34	52	11	44
8 JUL	-74	-50	25	56	20	-16	35	-1
15 JUL	40	57	64	25	15	85	68	50
22 JUL	34	21	-1	-6	39	84	50	32
29 JUL	21	18	50	72	80	80	30	50
5 AUG	13	16	24	15	-6	7	6	10
12 AUG	50	38	80	31	25	42	11	39
19 AUG	11	44	10	27	37	18	6	22
26 AUG	-6	30	71	88	55	21	51	44
2 SEP	43	4	-6	8	29	36	5	17
9 SEP	5	-8	-56	-115	-46	15	128	-11
16 SEP	77	20	15	44	14	3	47	31
23 SEP	25	6	31	28	19	1	40	21
30 SEP	35	9	36	29	26	16	40	27
7 OCT	22	50	39	19	71	54	100	51
14 OCT	54	35	53	21	5	-9	-77	12
21 OCT	-186	-140	-147	-17	-19	-70	-52	-90
28 OCT	-144	-134	-92	-20	-11	18	57	-47
4 NOV	64	31	45	84	131	-35	-98	32
11 NOV	-68	-99	-121	-50	-50	-36	-3	-61
18 NOV	0	14	31	26	71	8	30	26
25 NOV	38	57	70	38	-36	-70	11	15
2 DEC	9	24	-23	-1	31	-46	-146	-22
9 DEC	-152	-49	-6	23	46	26	12	-14
16 DEC	20	75	35	61	49	84	42	52
23 DEC	79	4	55	9	-4	15	-19	20
30 DEC	-45	14	-2	9	-1	-5	32	0



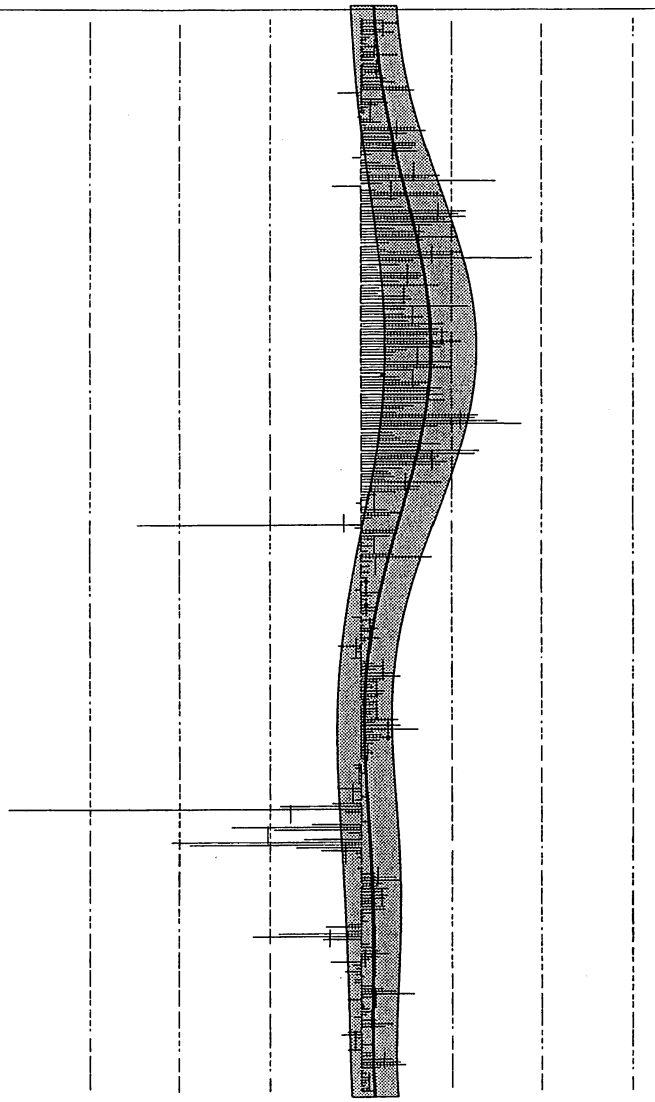
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1991 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
6 JAN	49	80	33	47	72	37	18	48
13 JAN	12	14	32	8	25	79	30	29
20 JAN	26	35	38	44	40	7	54	35
27 JAN	73	46	102	118	-50	-9	53	48
3 FEB	59	37	16	9	6	-8	26	21
10 FEB	42	9	121	143	101	71	75	80
17 FEB	122	120	111	123	23	-19	11	70
24 FEB	42	77	75	22	173	149	298	119
3 MAR	46	-64	31	172	186	80	28	68
10 MAR	21	94	232	216	233	188	203	170
17 MAR	156	73	141	124	210	137	62	129
24 MAR	36	56	226	205	379	117	86	158
31 MAR	35	38	133	139	129	82	174	104
7 APR	40	46	38	107	114	98	238	97
14 APR	100	48	97	138	103	184	128	114
21 APR	172	192	169	142	220	186	176	179
28 APR	103	75	71	66	198	167	200	126
5 MAY	119	53	85	87	154	128	175	114
12 MAY	161	178	145	185	150	116	95	147
19 MAY	75	259	252	300	357	169	132	221
26 MAY	71	73	86	135	173	126	263	132
2 JUN	250	170	164	189	175	90	61	157
9 JUN	64	74	51	176	129	127	76	99
16 JUN	33	16	14	-10	11	58	92	30
23 JUN	65	25	9	-494	-12	81	72	-36
30 JUN	63	26	8	23	2	16	75	30
7 JUL	158	23	3	18	1	17	2	32
14 JUL	16	17	5	0	-9	39	24	13
21 JUL	15	-2	22	29	27	11	-18	12
28 JUL	28	5	6	38	20	4	39	20
4 AUG	13	5	-48	-7	-6	1	-21	-9
11 AUG	11	30	48	33	72	87	53	48
18 AUG	33	20	30	52	46	38	18	34
25 AUG	35	28	38	27	25	15	81	35
1 SEP	29	87	127	26	44	65	41	60
8 SEP	28	8	21	27	12	12	3	16
15 SEP	-14	-11	-1	14	0	-4	-5	-3
22 SEP	-1	-45	-18	1	9	-13	-62	-18
29 SEP	-176	-781	-35	6	1	21	-107	-153
6 OCT	-282	-191	-26	-5	-124	-415	-378	-203
13 OCT	-140	-88	-9	-7	5	2	2	-34
20 OCT	-8	1	30	77	87	46	36	38
27 OCT	60	49	57	50	23	34	51	46
3 NOV	54	24	11	5	15	-27	-78	0
10 NOV	-30	-179	-238	-82	2	19	30	-68
17 NOV	40	60	36	20	-66	-16	-9	9
24 NOV	-34	-10	8	-11	-13	23	46	1
1 DEC	77	119	30	-29	4	10	18	33
8 DEC	22	12	-15	31	71	52	-2	24
15 DEC	-29	-44	-11	0	24	-2	-29	-13
22 DEC	29	32	68	88	99	40	5	52
29 DEC	12	21	20	9	7	19	32	17



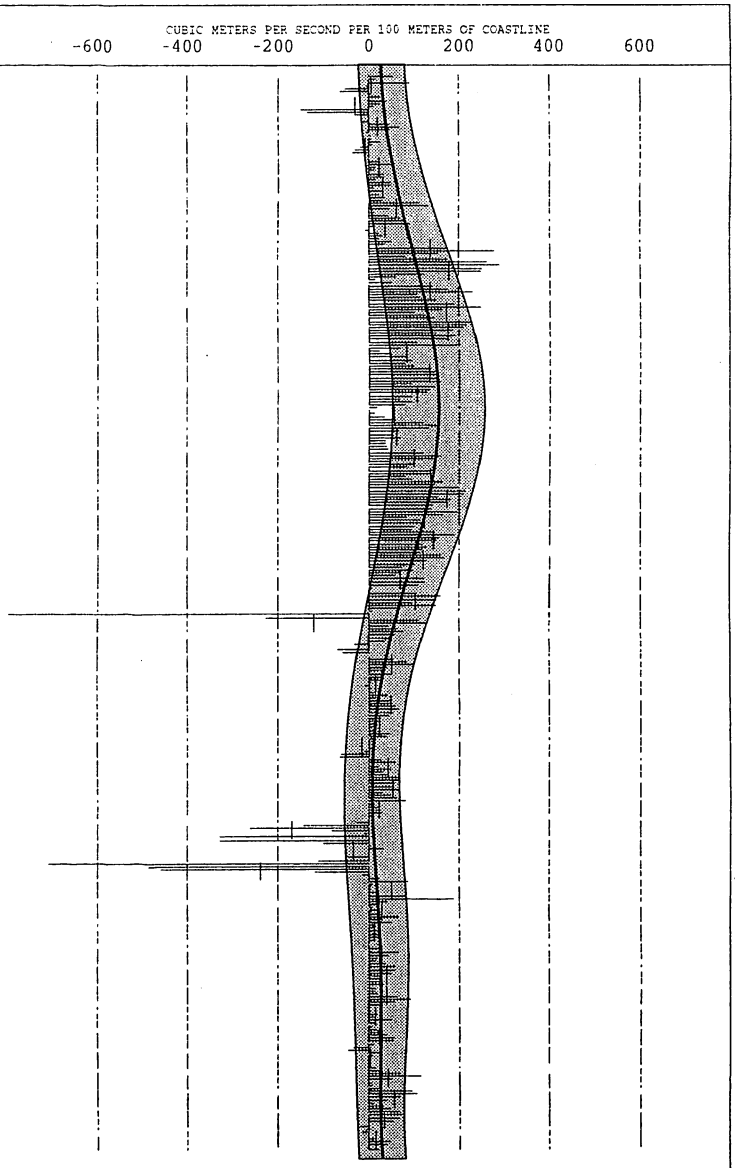
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1992 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
5 JAN	54	18	89	-4	-52	-62	7	7
12 JAN	27	40	26	10	-149	-136	-31	-30
19 JAN	1	-14	47	69	49	-6	5	22
26 JAN	6	26	6	-18	-30	-36	-2	-7
2 FEB	2	24	50	16	13	34	36	25
9 FEB	15	49	50	10	31	23	39	31
16 FEB	31	113	131	45	12	44	71	64
23 FEB	82	90	16	-7	25	33	22	37
1 MAR	51	37	175	280	154	83	175	136
8 MAR	263	289	250	249	124	59	15	178
15 MAR	54	143	176	232	107	112	148	139
22 MAR	190	249	164	100	127	147	232	172
29 MAR	218	211	187	152	190	178	106	177
5 APR	195	70	23	45	82	96	79	84
12 APR	100	137	146	156	148	159	93	134
19 APR	146	135	125	96	72	97	80	107
26 APR	19	3	12	34	61	120	150	57
3 MAY	133	68	50	71	39	37	40	62
10 MAY	44	121	160	149	47	99	85	101
17 MAY	142	135	81	95	166	145	201	138
24 MAY	216	210	151	185	170	139	138	173
31 MAY	195	162	84	112	119	100	95	124
7 JUN	146	189	154	149	118	128	118	143
14 JUN	113	159	164	127	105	74	97	120
21 JUN	69	60	122	124	109	8	-1	70
28 JUN	107	159	149	95	150	62	8	104
5 JUL	-1047	-227	114	129	44	66	77	-121
12 JUL	56	52	36	-30	-3	-68	-57	-2
19 JUL	1	54	83	98	39	39	52	52
26 JUL	26	20	4	-8	8	10	40	14
2 AUG	16	46	52	60	65	54	43	48
9 AUG	28	21	10	11	12	45	40	24
16 AUG	6	3	-2	7	-10	-59	-62	-17
23 AUG	26	58	20	48	31	44	65	42
30 AUG	69	57	52	67	31	47	63	55
6 SEP	81	14	20	20	29	9	1	25
13 SEP	-25	-143	-259	-79	-10	-326	-326	-167
20 SEP	-100	4	33	2	-1	-43	-110	-31
27 SEP	-709	-486	-458	-118	-12	23	88	-239
4 OCT	10	5	6	19	83	188	39	50
11 OCT	23	7	14	26	65	26	51	30
18 OCT	15	10	18	25	20	9	-1	14
25 OCT	-2	27	66	42	21	15	37	29
1 NOV	57	57	50	30	25	29	31	40
8 NOV	15	14	21	62	93	58	29	42
15 NOV	3	5	20	12	51	16	8	16
22 NOV	17	24	40	58	57	10	-31	25
29 NOV	-42	22	10	4	5	5	16	3
6 DEC	25	69	116	50	8	7	29	43
13 DEC	97	106	68	40	10	31	49	57
20 DEC	69	70	68	54	2	-17	-4	34
27 DEC	-14	-2	17	47	40	0	20	15



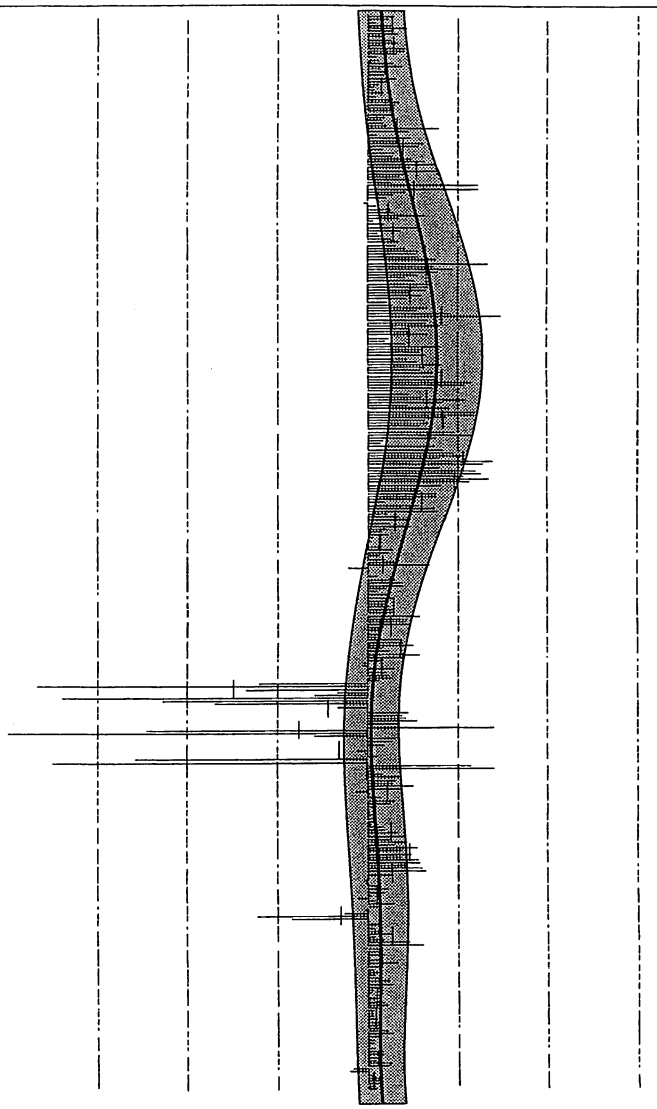
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1993 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
3 JAN	58	45	16	54	89	58	64	55
10 JAN	30	52	64	36	83	79	64	58
17 JAN	16	20	54	73	24	43	36	38
24 JAN	63	43	25	13	13	36	16	30
31 JAN	48	72	60	59	57	51	37	55
7 FEB	30	31	44	158	89	19	95	67
14 FEB	71	125	113	33	61	54	96	79
21 FEB	126	153	96	154	83	70	93	111
28 FEB	51	245	245	83	58	41	3	103
7 MAR	-8	17	51	57	129	68	12	47
14 MAR	37	111	73	20	30	52	72	56
21 MAR	64	85	113	106	111	155	268	129
28 MAR	149	191	158	109	83	103	137	133
4 APR	134	131	97	122	88	44	56	96
11 APR	135	110	185	299	134	131	163	165
18 APR	91	97	135	47	38	83	163	93
25 APR	122	116	130	89	109	165	131	123
2 MAY	119	145	148	155	233	217	143	166
9 MAY	54	91	118	219	164	92	179	131
16 MAY	241	238	174	126	135	115	140	167
23 MAY	190	234	151	32	28	148	167	136
30 MAY	190	209	161	279	257	160	239	214
6 JUN	250	214	272	228	162	107	119	193
13 JUN	151	154	98	34	112	148	154	121
20 JUN	43	67	90	46	95	39	31	59
27 JUN	43	13	8	-6	28	55	47	27
4 JUL	27	37	59	137	-42	4	2	32
11 JUL	21	61	76	77	40	20	48	49
18 JUL	53	39	31	45	55	55	115	56
25 JUL	88	84	91	34	23	24	21	52
1 AUG	67	75	102	33	45	114	81	74
8 AUG	31	-8	-10	60	41	47	55	31
15 AUG	26	-239	-734	-269	-65	-115	-680	-297
22 AUG	-455	-338	-67	-1	91	77	86	-87
29 AUG	109	71	282	-489	-975	-116	61	-151
5 SEP	54	37	0	-21	-6	21	-515	-61
12 SEP	-699	229	283	15	34	72	60	-1
19 SEP	55	101	76	-27	4	30	60	43
26 SEP	48	20	-2	6	7	6	12	14
3 OCT	6	35	37	65	79	46	87	51
10 OCT	57	111	76	97	76	114	116	92
17 OCT	85	120	130	54	2	-7	-3	54
24 OCT	19	44	38	7	-25	14	57	22
31 OCT	25	-3	-52	-243	-168	0	25	-59
7 NOV	15	32	55	15	39	92	125	53
14 NOV	24	27	38	7	31	67	33	32
21 NOV	11	20	14	24	47	56	30	29
28 NOV	11	6	0	18	38	46	20	20
5 DEC	11	9	13	21	28	24	26	19
12 DEC	45	54	30	14	12	7	17	25
19 DEC	35	34	22	17	50	47	-31	25
26 DEC	-41	13	24	28	25	12	19	11



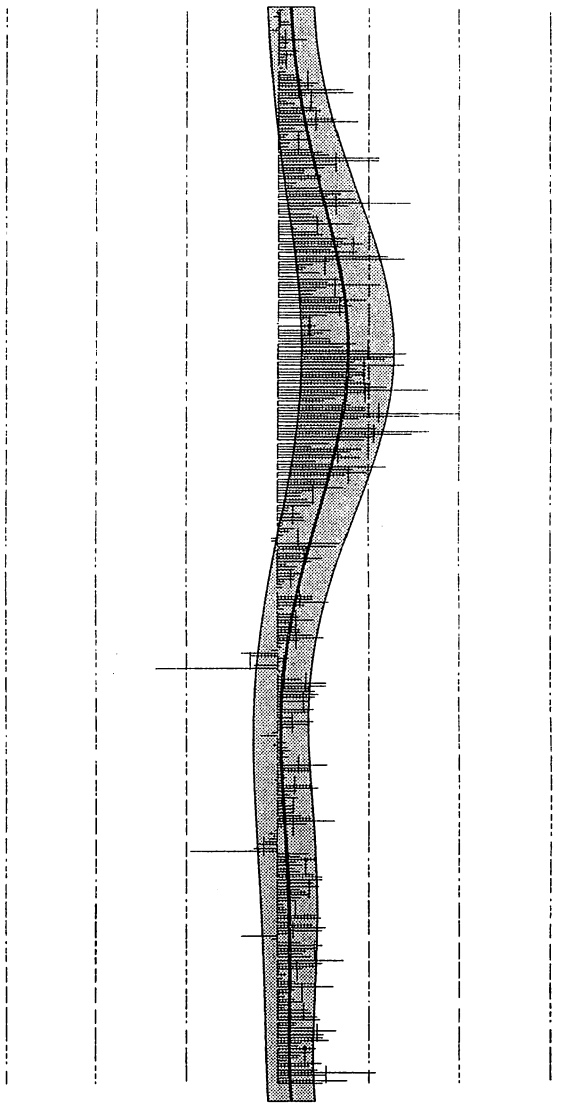
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1994 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
2 JAN	10	-5	-11	-3	20	25	-5	5
9 JAN	-12	4	17	62	21	4	14	16
16 JAN	42	30	13	14	18	-2	10	18
23 JAN	14	35	47	52	88	80	146	66
30 JAN	165	60	52	18	38	85	97	73
6 FEB	61	49	130	178	87	38	57	86
13 FEB	20	19	72	25	23	71	96	47
20 FEB	112	222	224	129	102	56	57	129
27 FEB	97	93	41	35	89	165	137	94
6 MAR	109	171	292	154	76	27	72	129
13 MAR	90	98	163	36	40	87	101	88
20 MAR	150	142	188	139	119	174	243	165
27 MAR	280	113	78	60	55	91	47	103
3 APR	135	111	225	108	86	76	148	127
10 APR	195	133	163	144	148	108	76	138
17 APR	2	-1	84	115	95	80	112	70
24 APR	115	172	141	196	284	258	234	200
1 MAY	167	279	175	191	193	162	169	191
8 MAY	204	241	331	189	153	128	104	193
15 MAY	159	193	193	402	312	177	139	225
22 MAY	128	217	336	295	216	189	113	213
29 MAY	75	189	160	141	180	84	121	136
5 JUN	241	166	196	152	118	117	110	157
12 JUN	145	80	54	51	69	83	74	79
19 JUN	27	25	49	56	59	13	9	34
26 JUN	38	24	12	-13	-11	137	129	45
3 JUL	67	65	51	98	72	20	43	59
10 JUL	38	57	38	39	16	10	10	30
17 JUL	3	0	80	78	111	60	13	49
24 JUL	-1	35	46	79	33	37	49	40
31 JUL	48	77	103	45	12	10	-13	40
7 AUG	-81	-57	25	13	-51	-268	10	-59
14 AUG	1	8	52	108	106	71	82	61
21 AUG	90	83	67	9	12	79	68	58
28 AUG	8	31	79	72	38	5	-11	32
4 SEP	-36	9	18	-11	20	28	19	7
11 SEP	22	12	15	110	70	72	14	45
18 SEP	22	-5	8	77	91	40	25	37
25 SEP	42	20	20	31	37	34	51	33
2 OCT	74	127	64	17	-4	-18	-8	36
9 OCT	-16	-26	-44	-52	-190	67	49	-30
16 OCT	86	39	53	37	48	81	98	63
23 OCT	97	79	93	49	64	71	52	72
30 OCT	42	11	15	21	22	85	96	42
6 NOV	27	77	106	99	26	-79	-9	35
13 NOV	48	99	88	63	54	72	145	81
20 NOV	98	82	55	4	19	9	38	43
27 NOV	83	125	37	28	16	39	53	54
4 DEC	29	15	66	73	87	93	40	57
11 DEC	39	79	129	101	99	113	53	87
18 DEC	44	86	70	48	47	22	96	59
25 DEC	68	88	215	108	23	155	98	108



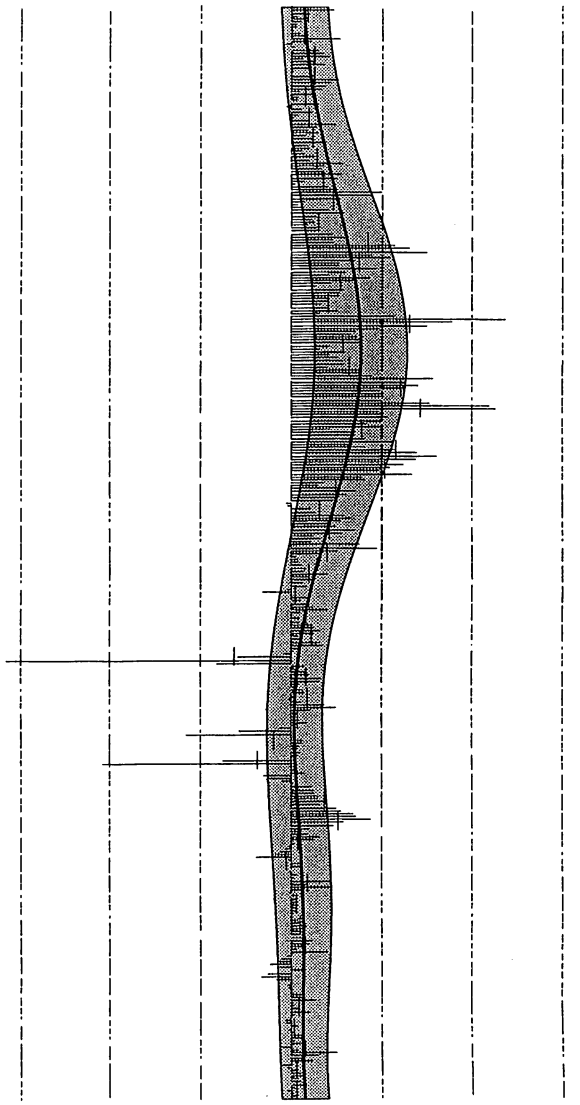
NOAA/NMFS PACIFIC FISHERIES ENVIRONMENTAL GROUP - PACIFIC GROVE,CALIFORNIA

COASTAL UPWELLING INDICES, DAILY AND WEEKLY MEANS

SOURCE= 63X63 FIELDS

DURING 1995 AT 21N, 107W

WEEK BEGINNING	DAILY VALUES SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY MEAN
1 JAN	56	94	40	12	39	20	9	39
8 JAN	12	4	22	32	107	45	-11	30
15 JAN	8	59	70	82	25	50	71	52
22 JAN	37	5	2	52	105	88	73	52
29 JAN	65	22	49	19	13	59	-9	31
5 FEB	24	46	16	8	40	96	56	41
12 FEB	38	57	33	48	78	38	40	47
19 FEB	22	29	47	41	113	71	67	56
26 FEB	71	110	102	29	9	79	102	72
5 MAR	200	177	109	30	16	31	82	92
12 MAR	116	56	47	51	36	54	56	59
19 MAR	89	119	93	93	229	264	301	169
26 MAR	180	217	139	108	105	187	119	151
2 APR	83	173	141	86	54	118	108	109
9 APR	104	81	80	67	78	104	63	82
16 APR	226	476	358	300	196	144	131	261
23 APR	146	155	153	86	62	118	81	114
30 APR	104	114	115	78	153	158	178	129
7 MAY	315	255	282	254	195	205	195	243
14 MAY	199	307	440	455	195	205	212	288
21 MAY	199	166	198	85	143	144	163	157
28 MAY	227	137	163	229	279	323	276	233
4 JUN	205	248	219	196	269	155	163	208
11 JUN	71	59	107	143	121	96	93	98
18 JUN	-11	-8	43	54	117	128	111	62
25 JUN	88	97	142	114	52	63	45	86
2 JUL	151	190	103	65	10	15	15	78
9 JUL	23	32	28	78	37	48	26	39
16 JUL	34	-6	-63	-2	34	25	41	9
23 JUL	48	82	20	1	19	18	47	33
30 JUL	51	62	53	14	20	62	68	47
6 AUG	16	8	-15	-115	-631	-162	32	-124
13 AUG	7	35	41	66	61	22	15	35
20 AUG	27	30	6	-5	24	74	99	36
27 AUG	44	13	10	19	34	13	-25	15
3 SEP	-112	-230	1	25	23	19	15	-37
10 SEP	21	18	4	-148	-415	-3	15	-73
17 SEP	29	-59	-46	-17	4	46	50	1
24 SEP	50	60	61	78	62	98	111	74
1 OCT	137	144	178	114	92	40	25	104
8 OCT	37	64	49	6	-8	-11	-22	16
15 OCT	-35	-77	-4	19	23	1	0	-11
22 OCT	13	8	89	36	90	29	-1	38
29 OCT	10	9	12	19	13	12	5	11
5 NOV	-2	15	19	34	31	19	22	20
12 NOV	29	46	39	30	13	79	-7	33
19 NOV	-22	-25	-45	-24	26	-53	-66	-30
26 NOV	-33	1	-7	-5	2	24	32	2
3 DEC	56	4	6	15	43	8	-1	19
10 DEC	-13	-9	14	-3	4	24	26	6
17 DEC	8	21	-18	14	103	59	31	31
24 DEC	48	-19	-9	15	20	25	17	14
31 DEC	22	34	6	-6	4	10	17	12



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G.H. BALAZS, S.G. POOLEY, and S.K. MURAKAWA, (Eds.)
(November 1995)

223 Age determination in Pacific sardine, *Sardinops sagax.*
M.L. YAREMKO
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(August 1996)