

Supplement

Table S1. Blank carbon and blank nitrogen for each station and compound.

sample	compound	blank C [$\mu\text{g}/\text{run}$]	blank N [$\mu\text{g}/\text{run}$]	runs
P128	chlorophyll <i>a</i>	2.5	0.1	14
	pheophytin <i>a</i>	0.8	0.02	22
	pyropheophytin <i>a</i>	0.8	0.02	25
P177	chlorophyll <i>a</i>	2.5	0.1	4
	pheophytin <i>a</i>	0.8	0.02	9
	pyropheophytin <i>a</i>	0.8	0.02	7
P120	chlorophyll <i>a</i>	2.5	0.1	4
	pheophytin <i>a</i>	0.8	0.02	4
	pyropheophytin <i>a</i>	0.8	0.02	5
P169	chlorophyll <i>a</i>	2.5	0.1	4
	pheophytin <i>a</i>	0.8	0.02	4
	pyropheophytin <i>a</i>	0.8	0.02	5
P167	chlorophyll <i>a</i>	2.5	0.1	17
	pheophytin <i>a</i>	0.8	0.02	23
	pyropheophytin <i>a</i>	0.8	0.02	12
	$13^2,17^3$ -cyclophorphorbide <i>a</i> enol	1.9	0.05	25

Table S2. Modeled bomb surface water DI^{14}C results from 20 m water depth for the time interval AD1940 to AD2008 (sampling year).

calendar year	$\Delta^{14}\text{C}$ [‰] max	$\Delta^{14}\text{C}$ [‰] average	$\Delta^{14}\text{C}$ [‰] min
1940	-50.6	-54.1	-57.7
1941	-50.8	-54.3	-57.8
1942	-51.0	-54.4	-57.9
1943	-51.2	-54.6	-58.0
1944	-51.5	-54.8	-58.1
1945	-51.7	-54.9	-58.3
1946	-51.9	-55.1	-58.4
1947	-52.1	-55.3	-58.5
1948	-52.3	-55.4	-58.6
1949	-52.6	-55.6	-58.8
1950	-52.8	-55.8	-58.9
1951	-53.0	-56.0	-59.0
1952	-53.3	-56.1	-59.2
1953	-53.5	-56.3	-59.3
1954	-53.7	-56.5	-59.4
1955	-52.8	-55.7	-58.7
1956	-49.5	-52.8	-56.2
1957	-44.5	-48.4	-52.4
1958	-37.8	-42.4	-47.2
1959	-28.7	-34.4	-40.2
1960	-19.5	-26.3	-33.1
1961	-11.7	-19.4	-26.9
1962	-0.2	-9.1	-17.9
1963	26.8	14.6	2.7
1964	62.9	46.4	30.5
1965	90.1	70.7	51.7
1966	107.1	85.9	65.3
1967	117.9	95.8	74.3
1968	124.4	101.9	80.0
1969	129.0	106.4	84.3
1970	133.4	110.6	88.3
1971	137.0	114.1	91.7
1972	139.0	116.2	93.8
1973	139.1	116.7	94.6
1974	137.8	115.9	94.2
1975	136.3	114.9	93.6
1976	134.9	113.9	93.0
1977	133.3	112.8	92.3
1978	131.9	111.8	91.7
1979	130.3	110.6	90.9
1980	128.2	108.9	89.7
1981	125.7	106.9	88.1
1982	122.6	104.4	86.1
1983	118.7	101.0	83.4
1984	114.3	97.4	80.4
1985	110.6	94.2	77.7
1986	107.4	91.5	75.5
1987	104.2	88.8	73.3

1988	100.6	85.7	70.8
1989	97.0	82.6	68.2
1990	93.6	79.6	65.6
1991	90.1	76.6	63.1
1992	86.6	73.6	60.6
1993	83.2	70.6	58.0
1994	79.8	67.7	55.5
1995	76.6	64.8	53.1
1996	73.6	62.2	50.8
1997	71.0	59.9	48.8
1998	68.5	57.7	47.0
1999	66.1	55.6	45.1
2000	63.6	53.4	43.2
2001	61.1	51.2	41.3
2002	58.6	48.9	39.4
2003	55.9	46.6	37.3
2004	53.3	44.2	35.3
2005	50.6	41.9	33.2
2006	48.0	39.5	31.2
2007	45.5	37.2	29.2
2008	42.9	35.0	27.2
