

Supplementary Table1: Coccolith and sediment trap data

Sample	Date	Length (μm)	Weight (pg)	95% CI length	95% CI weight	N	Mass flux ($\text{mg m}^{-2} \text{d}^{-1}$)	Coccoliths g^{-1} sediment
NB I 2B4	07/12/1993	3.07	3.10	0.04	0.23	157	475	252829201
NB I 2B5	23/12/1993	3.05	2.81	0.09	0.43	54	578	83550152
NB I 2B6	07/01/1994	3.10	4.55	0.04	0.28	264	620	448791961
NB I 2B7	23/01/1994	3.09	3.35	0.04	0.22	205	595	345854175
NB I 2B12	07/05/1994	3.13	3.56	0.03	0.15	515	638	688777382
NB II 2B1	23/07/1994	3.10	4.98	0.06	0.45	130	115	433996622
NB II 2B6	23/08/1994	3.10	4.90	0.08	0.61	79	68	245830254
NB II 2B9	07/09/1994	3.11	4.52	0.06	0.43	113	147	391254531
NB II 2B10	22/09/1994	3.20	4.85	0.12	0.80	37	70	85870989
NB II 2B11	07/10/1994	3.02	3.69	0.12	0.67	35	58	101453756
NB II 2B12	23/10/1994	3.06	4.41	0.09	0.63	60	104	182096485
NB III 2B1	30/11/1994	3.15	4.99	0.05	0.33	209	410	565510750
NB III 2B2	31/12/1994	3.18	5.61	0.05	0.40	160	249	598987073
NB III 2B3	31/01/1995	3.11	5.04	0.04	0.25	323	999	823607226
NB III 2B4	01/03/1995	3.12	5.09	0.04	0.29	286	514	525458720
NB III 2B5	31/03/1995	3.07	4.64	0.08	0.47	90	2300	229327761
NB III 2B6	30/04/1995	3.13	5.05	0.05	0.38	200	1700	
NB IV 2B1	15/06/1995	3.14	5.18	0.06	0.45	138	659	299021596
NB IV 2B2	15/07/1995	3.15	3.97	0.12	0.77	42	231	115732433
NB IV 2B3	15/08/1995	3.17	4.99	0.13	0.83	37	370	74963053
NB IV 2B4	15/09/1995	3.06	4.39	0.11	0.73	44	74	78908477
NB IV 2B5	15/10/1995	3.16	4.13	0.08	0.53	68	135	123742839
NB IV 2B6	15/11/1995	3.08	4.41	0.10	0.65	64	258	160282843
NB V 2B2	31/01/1996	3.12	4.68	0.14	1.04	26	406	21371046
NB V 2B3	29/02/1996	3.08	4.50	0.13	0.82	32	2253	26039797
NB V 2B4	31/03/1996	3.04	4.63	0.20	1.09	22	1571	27124789
NB V 2B5	30/04/1996	3.02	5.21	0.15	0.97	27	825	23014972
NB V 2B6	31/05/1996	2.99	4.32	0.12	0.84	28	1079	22883458
NB VII 2B1	15/02/1997	3.12	4.98	0.04	0.29	323	1529	317512680
NB VII 2B2	15/03/1997	3.15	5.17	0.03	0.18	739	829	607595271
NB VII 2B3	15/04/1997	3.12	5.24	0.03	0.18	809	374	757700714
NB VII 2B4	15/05/1997	3.15	5.06	0.03	0.21	630	145	288015940
NB VII 2B5	22/06/1997	3.09	4.45	0.03	0.22	452	136	305770347
NB VII 2B6	08/08/1997	3.12	4.46	0.03	0.18	668	129	292601162
NB VIII 2B1	01/10/1997	3.09	4.43	0.03	0.22	518	123	304361267
NB VIII 2B2	01/11/1997	3.13	5.15	0.03	0.20	653	272	600780448
NB VIII 2B3	01/12/1997	3.12	4.96	0.03	0.19	661	772	592690336
NB VIII 2B4	01/01/1998	3.12	4.92	0.03	0.17	791	1019	518632327
NB VIII 2B5	01/02/1998	3.13	5.38	0.02	0.15	1196	794	1018412528
NB VIII 2B6	01/03/1998	3.11	5.15	0.02	0.12	1603	552	1087621838
NB IX 2B1	15/04/1998	3.10	5.08	0.04	0.25	403	612	465779203
NB IX 2B2	15/05/1998	3.13	5.03	0.04	0.29	319	642	332831908
NB IX 2B3	15/06/1998	3.13	4.98	0.03	0.25	432	955	314929367
NB IX 2B4	15/07/1998	3.14	4.94	0.03	0.20	562	472	410042263
NB IX 2B5	15/08/1998	3.12	4.85	0.03	0.19	747	124	510932387
NB IX 2B6	13/09/1998	3.12	4.57	0.03	0.22	528	153	670722052
NB X 2B1	01/11/1998	3.13	4.46	0.03	0.21	459	282	219551232

Sample	Date	Length (μm)	Weight (pg)	95% CI length	95% CI weight	N	Mass flux ($\text{mg m}^{-2} \text{d}^{-1}$)	Coccoliths g^{-1} sediment
NB X 2B2	01/12/1998	3.14	4.61	0.03	0.23	428	623	192887388
NB X 2B3	01/01/1999	3.17	4.87	0.02	0.17	832	651	344364686
NB X 2B4	01/02/1999	3.16	4.98	0.02	0.18	749	447	564780116
NB X 2B5	01/03/1999	3.13	4.99	0.03	0.25	401	3600	412521530
NB X 2B6	01/04/1999	3.16	5.26	0.04	0.25	388	2346	441668280
NB XI 2B1	15/05/1999	3.18	5.29	0.03	0.21	608	498	415584644
NB XI 2B2	15/06/1999	3.17	5.22	0.03	0.21	609	890	480279479
NB XI 2B3	15/07/1999	3.18	5.29	0.02	0.18	853	116	498250667
NB XI 2B4	15/08/1999	3.17	5.10	0.03	0.24	468	90	345762598
NB XI 2B5	15/09/1999	3.18	4.78	0.04	0.28	346	184	254659175
NB XI 2B6	15/10/1999	3.17	5.21	0.03	0.22	546	844	434770235
NB XII 2B1	01/12/1999	3.11	4.41	0.06	0.38	129	525	166725975
NB XII 2B2	01/01/2000	3.15	4.76	0.04	0.27	322	936	228419275
NB XII 2B3	01/02/2000	3.11	4.66	0.04	0.30	284	759	252164045
NB XII 2B4	01/03/2000	3.16	5.07	0.05	0.38	185	2249	237958375
NB XII 2B5	01/04/2000	3.16	5.00	0.03	0.23	449	1426	313593171
NB XII 2B6	01/05/2000	3.17	5.14	0.03	0.20	630	1727	303101384
NB XIII 2B5	15/10/2000	3.11	4.56	0.04	0.24	422	226	394542384
NB XIII 2B6	15/11/2000	3.09	3.04	0.06	0.31	127	1387	128850551
NB XIV 2B1	01/01/2001	3.06	4.47	0.04	0.27	332	763	284339714
NB XIV 2B2	01/02/2001	3.11	4.84	0.05	0.33	245	1080	307687336
NB XIV 2B3	01/03/2001	3.03	4.32	0.06	0.38	172	1751	180658881
NB XIV 2B4	01/04/2001	2.99	3.84	0.07	0.45	120	989	160577290
NB XIV 2B5	01/05/2001	3.06	4.31	0.06	0.37	161	1081	208759120
NB XIV 2B6	01/06/2001	3.06	4.60	0.06	0.38	162	673	159846138
NB XV 2B1	15/07/2001	3.12	4.60	0.09	0.58	78	152	89218127
NB XV 2B2	15/08/2001	3.01	4.00	0.07	0.45	106	52	168999340
NB XV 2B3	15/09/2001	3.04	4.09	0.08	0.56	82	218	131923192
NB XV 2B4	15/10/2001	3.04	4.07	0.07	0.45	109	276	131198935
NB XV 2B5	15/11/2001	3.06	4.37	0.07	0.39	162	1442	151959602
NB XV 2B6	15/12/2001	3.01	4.04	0.07	0.41	113	1161	130257260
NB XVI 2B1	01/02/2002	3.10	5.04	0.03	0.25	382	562	458447136
NB XVI 2B2	01/03/2002	3.06	4.56	0.05	0.35	185	1339	262934518
NB XVI 2B3	01/04/2002	2.95	3.90	0.06	0.34	161	968	222048562
NB XVI 2B4	01/05/2002	3.05	4.49	0.07	0.48	104	728	193296864
NB XVI 2B5	01/06/2002	3.03	4.39	0.05	0.36	185	398	158304043
NB XVI 2B6	27/06/2002	3.05	4.32	0.06	0.44	143	592	228362428
NB XVII 2B1	01/08/2002	3.00	3.78	0.06	0.37	137	60	150572038
NB XVII 2B2	01/09/2002	2.99	4.17	0.05	0.39	190	42	184081824
NB XVII 2B3	01/10/2002	3.02	4.29	0.06	0.42	160	399	137494583
NB XVII 2B4	01/11/2002	3.02	4.41	0.08	0.48	113	76	174509131
NB XVII 2B5	01/12/2002	2.98	4.02	0.06	0.38	156	331	163307284
NB XVII 2B6	01/01/2003	3.00	3.64	0.06	0.32	152	676	152900899
NB XVIII 2B1	15/02/2003	2.98	4.04	0.09	0.59	66	1597	80590363
NB XVIII 2B2	15/03/2003	3.08	4.58	0.05	0.36	210	1819	315751945
NB XVIII 2B3	15/04/2003	3.04	4.60	0.04	0.29	262	391	246017388
NB XVIII 2B4	15/05/2003	3.03	4.88	0.05	0.36	220	116	334535938
NB XVIII 2B5	15/06/2003	3.10	4.95	0.04	0.28	336	128	350910153

Sample	Date	Length (μm)	Weight (pg)	95% CI length	95% CI weight	N	Mass flux ($\text{mg m}^{-2} \text{d}^{-1}$)	Coccoliths g^{-1} sediment
NB XVIII 2B6	15/07/2003	3.08	4.55	0.04	0.29	274	19	245515931
NB XIX 2B1	15/08/2003	3.03	4.36	0.05	0.35	211	114	211047932
NB XIX 2B2	15/09/2003	2.98	3.82	0.06	0.36	158	107	168554499
NB XIX 2B3	15/10/2003	3.04	3.96	0.05	0.26	259	305	146248988
NB XIX 2B4	15/11/2003	3.03	4.15	0.05	0.34	178	153	136504619
NB XIX 2B5	15/12/2003	3.06	4.13	0.07	0.42	127	865	193815565
NB XIX 2B6	15/01/2004	3.09	4.53	0.06	0.35	208	779	178440386
NB XX 2B1	01/03/2004	3.07	4.49	0.05	0.35	215	3257	191350482
NB XX 2B2	01/04/2004	3.10	4.96	0.04	0.25	390	1853	279409019
NB XXI 2B1	01/10/2004	3.03	3.82	0.06	0.32	166	101	185184312
NB XXI 2B2	01/11/2004	3.02	3.95	0.06	0.32	190	142	151156845
NB XXI 2B3	01/12/2004	3.06	4.37	0.06	0.38	184	488	267725189
NB XXI 2B4	01/01/2005	3.07	4.38	0.05	0.32	252	407	202816968
NB XXI 2B5	01/02/2005	3.05	3.22	0.07	0.26	120	479	162600914
NB XXI 2B6	01/03/2005	2.94	3.67	0.06	0.34	138	2550	155681888
NB XXII 2B1	01/04/2005	3.07	4.24	0.05	0.35	172	1914	281135273
NB XXII 2B2	01/05/2005	3.09	3.80	0.06	0.33	139	573	247702761
NB XXII 2B3	01/06/2005	3.08	4.12	0.04	0.24	318	349	298642801
NB XXII 2B4	01/07/2005	2.96	3.05	0.08	0.32	78	222	117459183
NB XXII 2B5	01/08/2005	3.00	2.99	0.05	0.21	188	40	192186883
NB XXIII 2B2	15/11/2005	3.02	3.78	0.06	0.33	159	1108	148365520
NB XXIII 2B4	08/01/2006	3.15	3.55	0.06	0.27	230	1327	239665869

Supplementary Table 2: SeaWifs data

Month	npp (mg C m ⁻² d ⁻¹)	PIC (mol m ⁻³)
Jan-98	404	0.000206
Feb-98	540	0.000149
Mar-98	653	0.000266
Apr-98	1135	0.000946
May-98	924	0.000308
Jun-98	988	0.000253
Jul-98	733	0.000133
Aug-98	657	0.000176
Sep-98	835	0.000317
Oct-98	621	0.000173
Nov-98	569	0.000614
Dec-98	436	0.000296
Jan-99	378	0.000225
Feb-99	433	0.000293
Mar-99	1057	0.000183
Apr-99	906	0.000093
May-99	955	0.000327
Jun-99	814	0.000131
Jul-99	697	0.000158
Aug-99	636	0.000151
Sep-99	501	0.000144
Oct-99	706	0.000332
Nov-99	605	0.000265
Dec-99	416	0.000621
Jan-00	401	0.000480
Feb-00	535	0.000307
Mar-00	801	0.000291
Apr-00	775	0.000176
May-00	1144	0.000382
Jun-00	933	0.000255
Jul-00	1169	0.000309
Aug-00	611	0.000175
Sep-00	703	0.000119
Oct-00	621	0.000272
Nov-00	710	0.000839
Dec-00	411	0.000369
Jan-01	689	0.000354
Feb-01	528	0.000284
Mar-01	1285	0.002574
Apr-01	932	0.000465
May-01	761	0.000244
Jun-01	773	0.000210
Jul-01	837	0.000285
Aug-01	680	0.000170
Sep-01	868	0.000229
Oct-01	569	0.000150
Nov-01	601	0.000254
Dec-01	414	0.000237
Jan-02	339	0.000102
Feb-02	586	0.000275
Mar-02	725	0.000204
Apr-02	699	0.000246
May-02	864	0.000240
Jun-02	838	0.000215

Month	npp (mg C m ⁻² d ⁻¹)	PIC (mol m ⁻³)
Jul-02	823	0.000166
Aug-02	722	0.000202
Sep-02	579	0.000161
Oct-02	756	0.000256
Nov-02	575	0.000297
Dec-02	403	0.000323
Jan-03	513	0.000522
Feb-03	508	0.000334
Mar-03	797	0.000363
Apr-03	652	0.000154
May-03	799	0.000191
Jun-03	746	0.000167
Jul-03	689	0.000159
Aug-03	408	0.000119
Sep-03	556	0.000117
Oct-03	813	0.000503
Nov-03	598	0.000489
Dec-03	412	0.000258
Jan-04	385	0.000244
Feb-04	547	0.000505
Mar-04	744	0.000456
Apr-04	668	0.000159
May-04	987	0.000321
Jun-04	893	0.000315
Jul-04	868	0.000262
Aug-04	681	0.000198
Sep-04	660	0.000153
Oct-04	539	0.000112
Nov-04	494	0.000166
Dec-04	340	0.000130
Jan-05	367	0.000129
Feb-05	435	0.000300
Mar-05	656	0.000238
Apr-05	952	0.000308
May-05	709	0.000147
Jun-05	800	0.000173
Jul-05	937	0.000262
Aug-05	861	0.000205
Sep-05	638	0.000166
Oct-05	604	0.000213
Nov-05	461	0.000372
Dec-05	422	0.000296

Supplementary Table 3: DYFAMED temperature data for the upper 200 m of the water column

Date	T 4 (°C)	T 10 (°C)	T 20 (°C)	T 30 (°C)	T 40 (°C)	T 50 (°C)	T 70 (°C)	T 90 (°C)	T 110 (°C)	T 130 (°C)	T 150 (°C)	T 200 (°C)
07/11/1993		17.84	17.29	16.97	16.46	15.47	13.48	13.34	13.28	13.29	13.31	13.27
06/12/1993		15.88	15.87	15.77	15.34	14.69	14.06	13.61	13.37	13.31	13.30	13.33
12/01/1994	12.86	12.86	12.85	12.85	12.86	12.95	13.01	13.35				
13/01/1994	12.89	12.85	12.85	12.85	12.89	12.91	12.91	13.34	13.35	13.40	13.55	13.57
01/02/1994	12.88	12.86	12.86	12.85	12.85	13.01	13.24	13.01	13.22	12.96	12.95	13.01
02/02/1994	12.85	12.85	12.85	12.85	12.85	13.01	13.30	13.43	13.53	13.55	13.56	13.54
04/03/1994	12.92	12.89	12.88	12.82	12.81	12.80	12.91	13.32	13.35	13.40	13.46	13.50
05/03/1994	13.17	13.17	13.13	12.87	12.87	13.03	12.93	13.27	13.36	13.44	13.45	13.35
07/04/1994	13.29	13.23	13.22	13.22	13.21	13.21	13.19	13.18	13.21	13.27	13.25	13.33
28/04/1994	14.57	14.21	13.79	13.35	13.32	13.22	13.17	13.15	13.23	13.28	13.28	13.28
05/07/1994	20.99	19.39	16.41	13.78	13.20	13.13	13.15	13.15	13.11	13.31	13.25	13.34
21/08/1994	25.26	20.70	15.10	13.75	13.31	13.14	13.14	13.30	13.29	13.17	13.21	13.40
25/09/1994		18.36	18.08	17.92	16.46	13.21	13.12	13.16	13.22	13.23	13.28	13.39
15/10/1994	17.61	17.51	17.41	17.37	17.19	13.86	13.19	13.13	13.13	13.15	13.21	13.34
20/11/1994	16.46	16.43	16.32	16.16	14.16	13.27	13.11	13.13	13.16	13.24	13.39	13.51
17/01/1995	12.81	12.78	12.70	12.70	12.66	12.67	12.70	12.71	12.86	12.77	12.82	12.94
12/02/1995	13.04	13.04	13.03	13.03	13.01	13.00	12.96	12.93	12.98	13.35	13.24	13.40
06/03/1995	12.92	12.85	12.86	12.91	12.91	12.91	12.91	12.91	12.91	13.13	13.36	13.36
10/03/1995	12.95	12.83	12.81	12.84	12.84	12.84	12.98	13.09	13.06	13.15	13.29	13.46
10/04/1995	13.87	13.78	13.52	13.17	13.10	13.08	13.07	13.10	13.11	13.13	13.13	13.23
08/06/1995	18.51	17.78	15.65	13.71	13.32	13.21	13.20	13.16	13.19	13.24	13.24	13.23
07/07/1995	21.22	20.54	16.03	13.95	13.38	13.22	13.19	13.23	13.22	13.24	13.25	13.27
14/09/1995	21.07	21.06	15.70	13.89	13.36	13.19	13.16	13.16	13.17	13.19	13.20	13.26
05/10/1995	18.68	18.68	18.58	14.99	13.73	13.29	13.14	13.15	13.16	13.20	13.23	13.28
15/11/1995	16.77	16.76	16.67	16.15	16.07	14.90	13.51	13.19	13.17	13.15	13.16	13.22
17/01/1996	13.65	13.65	13.65	13.65	13.65	13.65	13.59	13.43	13.43	13.44		13.26
05/04/1996	13.16	13.13	13.08	13.10	13.09	13.07	13.15	13.09	13.08	13.10	13.13	13.21
23/05/1996	17.23	16.83	15.04	13.49	13.25	13.20	13.25	13.18	13.21	13.28	13.28	13.36
17/06/1996	21.24	21.24		14.30	13.43	13.14	13.15	13.11	13.10	13.14	13.20	13.26
10/07/1996	19.28	18.70	16.82	13.74	13.35	13.21	13.17	13.17	13.16	13.18	13.23	13.15
25/08/1996	23.55	23.46	18.11	14.91	13.78	13.47	13.17	13.18	13.16	13.20	13.22	13.27
11/09/1996	19.77	19.69	19.47	15.23	14.28	13.44	13.19	13.15	13.27	13.30	13.33	13.41
03/12/1996	13.58	13.57	13.48	13.46	13.44	13.28	13.26	13.27	13.38	13.25	13.26	13.27
13/01/1997	12.86	12.86	12.85	12.85	12.85	12.85	12.85	12.85	12.82	12.78	12.71	12.82
23/02/1997	13.31	13.24	13.15	13.12	13.07	13.04	13.04	13.03	13.09	13.17	13.33	13.50
02/03/1997	13.45	13.36	13.25	13.30	13.24	13.18	13.08	13.08	13.25	13.42	13.39	13.39
21/03/1997	13.66	13.63	13.62	13.57	13.45	13.30	13.05	13.17	13.13	13.15	13.34	13.43
14/04/1997	14.65	14.37	14.04	13.93	13.72	13.48	13.28	13.13	13.18	13.22	13.26	13.38
14/05/1997	15.42	15.18	15.02	14.92	14.62	13.56	13.24	13.23	13.33	13.31	13.36	13.45
18/06/1997	22.35	18.85	16.95	15.37	14.60	13.93	13.45	13.24	13.20	13.23	13.24	13.34
12/07/1997	21.29	20.04	19.53	16.67	14.04	13.42	13.27	13.34	13.39	13.48	13.40	13.40
01/09/1997	23.34	23.27	16.90	15.37	14.00	13.43	13.27	13.25	13.30	13.35	13.35	13.44
18/11/1997	15.62	15.54	15.48	15.48	15.45	14.89	14.00	13.51	13.37	13.29	13.22	13.33
04/12/1997	15.98	15.98	15.97	15.97	15.64	14.54	13.93	13.54	13.41	13.29	13.22	13.38
06/02/1998	13.76	13.65	13.59	13.61	13.52	13.48	13.35	13.29	13.31	13.41	13.07	12.98
16/03/1998	13.35	13.27	13.22	13.16	13.13	13.13	13.22	13.31	13.58	13.61	13.57	13.46
25/04/1998	14.82	14.34	14.13	13.76	13.54	13.37	13.40	13.40	13.36	13.39	13.31	13.38
06/05/1998	15.34	14.80	14.51	14.32	13.57	13.44	13.31	13.15	13.15	13.22	13.29	13.35
16/06/1998	17.98	17.82	15.11	14.12	13.66	13.46	13.31	13.21	13.21	13.23	13.39	13.38
22/07/1998	24.18	22.70	16.06	14.26	13.62	13.24	13.22	13.24	13.30	13.37	13.45	13.52
19/08/1998	25.04	23.13	15.77	14.22	13.69	13.48	13.26	13.24	13.25	13.26	13.27	13.38
04/09/1998	21.75	21.39	15.57	14.07	13.71	13.44	13.18	13.18	13.28	13.32	13.36	13.39
09/10/1998	17.75	17.74	17.65	14.93	13.60	13.34	13.22	13.21	13.19	13.24	13.27	13.31
09/12/1998	14.34	14.34	14.29	14.20	13.91	13.80	13.57	13.51	13.49	13.46	13.40	13.45

Date	T 4 (°C)	T 10 (°C)	T 20 (°C)	T 30 (°C)	T 40 (°C)	T 50 (°C)	T 70 (°C)	T 90 (°C)	T 110 (°C)	T 130 (°C)	T 150 (°C)	T 200 (°C)
26/01/1999	13.32	13.32	13.32	13.27	13.22	13.15	13.04	13.55	13.40	13.64	13.27	13.45
28/01/1999	13.32	13.32	13.32	13.32	13.34	13.36	13.54	13.53	13.38	13.15	13.25	13.42
04/02/1999	13.20	13.19	13.16	13.15	13.14	13.17	13.12	13.23	13.18	13.20	13.21	13.10
20/02/1999	12.90	12.91	12.95	13.00	13.00	12.97	13.02	13.06	13.18	13.23	13.24	13.45
21/02/1999	12.98	12.90	13.14	13.00	13.02	13.01	12.97	12.98	13.04	13.22	13.15	13.32
24/02/1999	12.94	12.94	12.94	12.94	12.94	13.00	13.16	12.96	13.04	13.03	13.10	13.18
16/03/1999	13.41	13.38	13.17	13.03	12.99	12.93	12.90	12.89	12.91	12.93	12.97	13.03
19/03/1999	13.06	12.97	12.96	12.97	12.97	12.97	12.97	12.97	12.97	12.97	12.96	12.95
11/04/1999	13.56	13.55	13.36	13.33	13.30	13.28	13.07	13.06	13.11	13.14	13.26	13.12
15/05/1999	17.42	15.07	14.04	13.58	13.44	13.39	13.21	13.15	13.17	13.20	13.16	13.35
12/06/1999	21.18	20.74	15.69	14.12	13.64	13.36	13.22	13.19	13.16	13.17	13.17	13.23
14/06/1999	21.20	20.99	15.44	14.17	13.60	13.34	13.11	13.13	13.14	13.16	13.17	13.23
10/07/1999	23.00	22.80	16.29	14.16	13.49	13.25	13.22	13.20	13.20	13.22	13.19	13.33
26/08/1999	25.02	24.45	21.54	15.70	14.12	13.68	13.31	13.24	13.23	13.22	13.21	13.23
28/08/1999	25.03	24.77	18.94	15.56	14.12	13.50	13.28	13.26	13.20	13.23	13.22	13.25
09/09/1999	23.36	23.16	21.54	15.98	14.39	13.42	13.20	13.23	13.18	13.22	13.23	13.27
28/10/1999	19.87	19.94	18.49	17.82	17.44	14.89	13.28	13.20	13.24	13.24	13.25	13.33
18/12/1999	13.27	13.27	13.28	13.27	13.27	13.26	13.27	13.26	13.29	13.31	13.33	13.38
30/01/2000	13.17	13.13	13.11	13.10	13.10	13.13	13.14	13.23	13.31	13.28	13.20	13.27
22/02/2000	12.94	12.94	12.94	12.94	12.94	12.97	12.97	13.04	13.07	13.08	13.06	13.05
28/03/2000	13.12	13.16	13.16	13.16	13.16	13.16	13.05	13.08	13.11	13.13	13.22	13.15
14/04/2000	13.41	13.24	13.21	13.12	13.12	13.12	13.12	13.12	13.18	13.21	13.25	13.26
25/05/2000	18.88	17.67	15.52	14.38	13.76	13.34	13.16	13.12	13.20	13.19	13.22	13.29
17/06/2000	22.56	21.13	14.77	13.46	13.24	13.15	13.17	13.18	13.20	13.28	13.15	13.16
21/07/2000	20.83	18.96	16.02	13.48	13.30	13.21	13.19	13.16	13.16	13.18	13.19	13.23
01/09/2000	23.27	22.94	16.03	14.16	13.45	13.17	13.15	13.14	13.15	13.16	13.18	13.23
23/09/2000	19.97	18.98	14.51	13.67	13.17	13.16	13.18	13.17	13.27	13.29	13.20	13.20
17/10/2000	19.51	19.41	19.34	16.31	14.52	13.72	13.18	13.15	13.21	13.17	13.19	13.22
06/12/2000	14.60	14.56	14.54	14.51	14.51	14.50	13.21	13.16	13.19	13.24	13.23	13.22
22/01/2001	13.60	13.53	13.38	13.32	13.28	13.28	13.22	13.23	13.39	13.39	13.35	13.24
20/02/2001	13.16	13.12	13.11	13.10	13.09	13.09	13.00	12.99	12.99	13.24	13.25	13.48
29/03/2001			13.86		13.60	13.07	13.01	13.10	13.22	13.27	13.34	13.41
27/04/2001	14.60	14.37	14.08	13.86	13.49	13.28	13.22	13.24	13.37	13.33	13.35	13.40
23/05/2001	16.86	16.31	16.30	16.26	14.14	13.60	13.26	13.21	13.25	13.26	13.26	13.34
29/06/2001	22.84	20.51	16.74	14.21	13.68	13.37	13.23	13.22	13.22	13.24	13.30	13.27
29/07/2001	23.50	20.01	14.66	13.82	13.39	13.26	13.30	13.26	13.23	13.25	13.27	13.34
29/08/2001	26.19	22.89	16.27	14.45	13.78	13.41	13.31	13.24	13.21	13.23	13.28	13.45
30/09/2001	18.96	18.68	17.79	14.43	13.49	13.32	13.25	13.22	13.24	13.27	13.28	13.30
31/10/2001	19.20	18.91	18.18	14.58	13.70	13.38	13.25	13.23	13.23	13.27	13.29	13.32
30/11/2001	16.01	15.91	15.92	15.87	15.25	14.71	13.71	13.25	13.31	13.40	13.42	13.46
11/12/2001	14.72	14.72	14.70	14.69	14.67	14.62	14.55	14.34	13.40	13.26	13.25	13.29
20/01/2002	13.02	12.98	12.95	12.96	12.97	12.97	12.98	12.99	13.16	13.36	13.30	13.34
25/02/2002	13.10	13.07	13.06	13.06	13.05	13.02	13.01	13.00	12.98	12.99	13.16	13.43
18/03/2002	13.92	13.75	13.73	13.26	13.10	13.01	12.97	13.00	13.07	13.34	13.19	13.24
05/04/2002	13.61	13.44	13.40	13.40	13.39	13.35	13.03	13.00	12.99	13.09	13.27	13.48
18/05/2002	17.49	16.59	14.93	14.06	13.46	13.32	13.16	13.25	13.29	13.34	13.44	13.49
25/06/2002	22.68	18.93	17.05	14.11	13.73	13.33	13.16	13.39	13.54	13.35	13.27	13.55
19/07/2002	23.40	22.68	17.52	14.84	13.88	13.51	13.31	13.27	13.33	13.20	13.23	13.38
18/08/2002	23.06	21.54	14.42	13.68	13.35	13.23	13.16	13.22	13.28	13.41	13.40	13.39
14/09/2002	21.40	21.34	21.20	14.76	13.79	13.48	13.24	13.24	13.27	13.31	13.36	13.37
04/12/2002	15.25	15.25	15.24	15.21	15.12	15.12	14.01	14.03	13.61	13.47	13.42	13.53
15/02/2003	12.84	12.83	12.83	12.83	12.83	12.83	12.82	12.81	12.80	12.80	12.84	13.05
13/03/2003	13.35	13.35	13.27	12.78	12.79	12.88	12.75	13.27	13.30	13.33	13.43	12.80
08/04/2003	13.08	13.07	13.06	13.06	13.05	13.05	13.05	13.06	13.06	13.08	13.16	13.16
14/05/2003	18.69	17.38	15.05	13.66	13.26	13.18	13.11	13.20	13.22	13.37	13.46	13.42
21/06/2003	25.34	19.79	16.04	14.57	13.68	13.29	13.24	13.24	13.26	13.24	13.25	13.32

Date	T 4 (°C)	T 10 (°C)	T 20 (°C)	T 30 (°C)	T 40 (°C)	T 50 (°C)	T 70 (°C)	T 90 (°C)	T 110 (°C)	T 130 (°C)	T 150 (°C)	T 200 (°C)
10/07/2003	23.08	20.79	15.50	13.91	13.41	13.28	13.21	13.24	13.24	13.28	13.28	13.38
01/08/2003	24.29	24.07	17.64	15.10	14.01	13.40	13.22	13.23	13.25	13.34	13.32	13.38
20/09/2003	22.48	22.37	21.35	18.23	15.25	14.22	13.38	13.27		13.34	13.38	
22/10/2003	18.47	18.47	18.47	18.45	17.43	14.55	13.91	13.63	13.47	13.34	13.30	13.33
30/11/2003	15.95	15.95	15.85	15.47	14.88	13.92	13.88	13.57	13.45	13.35	13.38	13.40
15/12/2003	15.91	15.89	15.45	15.18	14.75	14.01	13.84	13.53	13.69	13.61	13.61	13.38
26/02/2004	13.18	13.18	13.18	13.18	13.18	13.18	13.18	13.24	13.03	13.02	13.01	13.03
31/03/2004	13.11	13.11	13.09	13.07	13.07	13.07	13.08	13.08	13.10	13.10	13.11	13.05
26/04/2004	14.71	14.68	14.47	13.73	13.39	13.44	13.38	13.32	13.23	13.22	13.19	13.28
01/06/2004	18.65	17.33	15.49	14.33	13.91	13.34	13.17	13.27	13.29	13.32	13.36	13.37
29/06/2004	21.38	17.55	14.98	14.27	13.54	13.28	13.22	13.28	13.31	13.41	13.37	13.48
28/07/2004	23.52	22.50	15.27	13.95	13.56	13.31	13.21	13.19	13.22	13.28	13.34	13.37
30/08/2004	20.55	19.69	14.66	13.55	13.32	13.28	13.26	13.29	13.32	13.33	13.33	13.37
20/09/2004	21.73	21.67	21.00	16.21	14.49	13.87	13.29	13.28	13.32	13.33	13.31	13.40
27/10/2004	18.23	18.20	18.06	17.21	13.96	13.51	13.30	13.32	13.29	13.28	13.28	13.33
25/11/2004	15.61	15.60	15.50	15.36	13.53	13.38	13.27	13.28	13.33	13.45	13.36	13.31
14/12/2004	14.80	14.78	14.77	14.75	14.61	14.51	14.44	13.54	13.51	13.35	13.25	13.32
09/06/2005	18.49	18.41	15.90	13.69	13.46	13.39	13.26	13.22	13.23	13.20	13.21	13.24
02/07/2005	21.15	20.60	14.21	13.35	13.40	13.37	13.30	13.21	13.18	13.19	13.18	13.27
02/08/2005	22.46	20.19	15.14	14.05	13.53	13.34	13.24	13.19	13.18	13.17	13.18	13.24
25/10/2005	19.34	19.25	18.11	17.32	14.88	13.82	13.59	13.27	13.32	13.29	13.31	13.33
24/11/2005	14.58	14.58	14.57	14.49	14.12	13.26	13.25	13.28	13.26	13.28	13.29	13.42
19/12/2005	13.00	13.01	13.01	13.01	13.01	13.02	13.08	13.05	13.04	13.03	13.05	13.19

Supplementary Table 4: DYFAMED salinity data for the upper 200 m of the water column

Date	S 4 (psu)	S 10 (psu)	S 20 (psu)	S 30 (psu)	S 40 (psu)	S 50 (psu)	S 70 (psu)	S 90 (psu)	S 110 (psu)	S 130 (psu)	S 150 (psu)	S 200 (psu)
07/11/1993		37.63	37.61	38.08	37.85	37.83	38.03	38.11	38.17	38.20	38.25	38.35
06/12/1993		37.94	37.95	37.94	37.93	37.96	37.97	38.05	38.10	38.17	38.24	38.35
12/01/1994	37.86	38.12	38.12	38.13	38.13	38.16	38.20	38.38				
13/01/1994	38.11	38.11	38.11	38.11	38.14	38.15	38.19	38.39	38.43	38.45	38.51	38.53
01/02/1994	38.30	38.28	38.28	38.28	38.28	38.33	38.45	38.41	38.47	38.45	38.44	38.45
02/02/1994	38.37	38.30	38.30	38.30	38.30	38.33	38.44	38.51	38.56	38.58	38.59	38.60
04/03/1994	38.29	38.28	38.28	38.28	38.28	38.29	38.36	38.50	38.53	38.55	38.57	38.59
05/03/1994	38.29	38.27	38.27	38.29	38.30	38.34	38.35	38.48	38.52	38.56	38.57	38.56
07/04/1994	38.27	38.27	38.28	38.29	38.30	38.31	38.39	38.44	38.47	38.50	38.49	38.54
28/04/1994	38.15	38.14	38.16	38.18	38.20	38.23	38.28	38.32	38.38	38.43	38.45	38.49
05/07/1994	38.22	38.20	38.25	38.27	38.29	38.30	38.34	38.37	38.39	38.47	38.46	38.51
21/08/1994	38.37	38.24	38.21	38.23	38.25	38.27	38.32	38.40	38.43	38.42	38.45	38.54
25/09/1994		38.22	38.26	38.26	38.26	38.32	38.36	38.40	38.44	38.46	38.48	38.53
15/10/1994	38.16	38.18	38.22	38.23	38.20	38.25	38.35	38.38	38.39	38.42	38.46	38.51
20/11/1994	38.00	38.00	38.00	38.01	38.24	38.28	38.30	38.35	38.39	38.43	38.49	38.55
17/01/1995	38.22	38.22	38.27	38.27	38.26	38.26	38.27	38.28	38.33	38.31	38.34	38.37
12/02/1995	38.25	38.25	38.26	38.26	38.28	38.31	38.31	38.32	38.37	38.48	38.46	38.53
06/03/1995	38.28	38.30	38.32	38.34	38.34	38.34	38.34	38.34	38.34	38.42	38.51	38.53
10/03/1995	38.20	38.20	38.21	38.25	38.25	38.26	38.32	38.37	38.38	38.43	38.49	38.56
10/04/1995	38.24	38.24	38.25	38.28	38.31	38.31	38.34	38.38	38.40	38.41	38.43	38.48
08/06/1995	38.29	38.28	38.36	38.41	38.42	38.43	38.46	38.47	38.49	38.50	38.51	38.51
07/07/1995	38.24	38.27	38.37	38.44	38.47	38.47	38.48	38.50	38.50	38.51	38.52	38.53
14/09/1995	38.29	38.29	38.39	38.39	38.39	38.40	38.42	38.44	38.45	38.46	38.47	38.51
05/10/1995	38.37	38.38	38.38	38.34	38.34	38.35	38.37	38.41	38.43	38.46	38.48	38.51
15/11/1995	38.03	38.04	38.14	38.14	38.27	38.21	38.20	38.26	38.30	38.33	38.37	38.45
17/01/1996	38.04	38.04	38.04	38.04	38.04	38.04	38.06	38.14	38.25	38.31		38.39
05/04/1996	38.17	38.18	38.21	38.23	38.32	38.39	38.44	38.44	38.45	38.46	38.48	38.51
23/05/1996	38.01	38.01	38.14	38.18	38.26	38.31	38.38	38.40	38.44	38.48	38.49	38.53
17/06/1996	38.08	38.08		38.18	38.18	38.19	38.27	38.30	38.34	38.37	38.42	38.48
10/07/1996	38.12	38.11	38.14	38.17	38.19	38.24	38.29	38.32	38.35	38.39	38.43	38.45
25/08/1996	38.25	38.25	38.11	38.18	38.22	38.27	38.30	38.34	38.37	38.41	38.45	38.50
11/09/1996	38.10	38.10	38.10	38.18	38.20	38.26	38.30	38.33	38.41	38.44	38.47	38.53
03/12/1996	38.16	38.16	38.17	38.18	38.21	38.18	38.18	38.21	38.35	38.34	38.40	38.46
13/01/1997	38.23	38.24	38.24	38.24	38.24	38.24	38.23	38.23	38.23	38.23	38.23	38.32
23/02/1997	38.10	38.13	38.19	38.19	38.19	38.20	38.21	38.23	38.28	38.33	38.45	38.55
02/03/1997	38.16	38.17	38.19	38.33	38.33	38.34	38.34	38.36	38.42	38.49	38.49	38.53
21/03/1997	38.30	38.30	38.30	38.30	38.31	38.31	38.33	38.37	38.40	38.42	38.49	38.54
14/04/1997	38.33	38.33	38.30	38.29	38.29	38.30	38.30	38.34	38.38	38.42	38.45	38.52
14/05/1997	38.15	38.17	38.15	38.14	38.18	38.32	38.35	38.42	38.47	38.48	38.51	38.55
18/06/1997	37.97	37.94	38.06	38.18	38.18	38.24	38.29	38.32	38.35	38.39	38.42	38.49
12/07/1997	38.08	38.08	38.10	38.20	38.27	38.31	38.37	38.43	38.46	38.51	38.50	38.53
01/09/1997	38.19	38.19	38.25	38.28	38.31	38.34	38.37	38.41	38.45	38.49	38.50	38.55
18/11/1997	38.04	38.05	38.06	38.06	38.06	38.04	38.13	38.16	38.21	38.26	38.30	38.42
04/12/1997	37.95	37.95	37.95	37.95	37.96	38.03	38.11	38.18	38.21	38.26	38.30	38.45
06/02/1998	38.07	38.09	38.10	38.12	38.12	38.13	38.15	38.16	38.20	38.34	38.29	38.30
16/03/1998	38.30	38.30	38.30	38.29	38.30	38.30	38.34	38.39	38.50	38.53	38.53	38.55
25/04/1998	38.09	38.08	38.09	38.12	38.19	38.28	38.34	38.39	38.41	38.45	38.45	38.52
06/05/1998	38.11	38.11	38.10	38.10	38.17	38.21	38.33	38.34	38.37	38.41	38.45	38.51
16/06/1998	38.08	38.08	38.15	38.17	38.18	38.20	38.24	38.29	38.33	38.37	38.43	38.49
22/07/1998	38.29	38.24	38.25	38.31	38.33	38.37	38.39	38.42	38.46	38.49	38.53	38.58
19/08/1998	38.26	38.32	38.25	38.27	38.27	38.30	38.35	38.38	38.41	38.43	38.46	38.53
04/09/1998	38.29	38.29	38.26	38.26	38.27	38.31	38.34	38.37	38.43	38.46	38.49	38.53
09/10/1998	38.13	38.13	38.15	38.23	38.22	38.26	38.30	38.34	38.37	38.42	38.46	38.49
09/12/1998	38.16	38.16	38.16	38.17	38.18	38.20	38.20	38.21	38.22	38.25	38.29	38.40

Date	S 4 (psu)	S 10 (psu)	S 20 (psu)	S 30 (psu)	S 40 (psu)	S 50 (psu)	S 70 (psu)	S 90 (psu)	S 110 (psu)	S 130 (psu)	S 150 (psu)	S 200 (psu)
26/01/1999	38.15	38.15	38.15	38.20	38.22	38.24	38.26	38.42	38.41	38.51	38.44	38.54
28/01/1999	38.25	38.25	38.26	38.27	38.28	38.29	38.42	38.47	38.44	38.40	38.44	38.51
04/02/1999	38.13	38.13	38.13	38.13	38.13	38.19	38.21	38.30	38.31	38.32	38.33	38.38
20/02/1999	38.19	38.20	38.23	38.26	38.30	38.32	38.37	38.42	38.48	38.51	38.51	38.57
21/02/1999	38.21	38.22	38.33	38.33	38.36	38.38	38.38	38.39	38.42	38.48	38.47	38.53
24/02/1999	38.33	38.33	38.33	38.33	38.33	38.35	38.45	38.41	38.44	38.44	38.46	38.50
16/03/1999	38.30	38.31	38.38	38.41	38.41	38.41	38.41	38.41	38.41	38.42	38.44	38.46
19/03/1999	38.43	38.43	38.43	38.43	38.43	38.43	38.43	38.43	38.43	38.43	38.43	38.43
11/04/1999	38.27	38.27	38.27	38.27	38.28	38.30	38.32	38.36	38.39	38.42	38.47	38.46
15/05/1999	38.29	38.27	38.30	38.33	38.35	38.39	38.39	38.41	38.44	38.46	38.46	38.53
12/06/1999	38.32	38.30	38.34	38.36	38.36	38.37	38.39	38.41	38.43	38.45	38.47	38.50
14/06/1999	38.35	38.33	38.34	38.37	38.37	38.37	38.35	38.39	38.42	38.44	38.46	38.50
10/07/1999	38.46	38.44	38.39	38.25	38.27	38.28	38.32	38.34	38.36	38.40	38.43	38.51
26/08/1999	38.51	38.49	38.39	38.23	38.19	38.24	38.26	38.31	38.35	38.40	38.43	38.48
28/08/1999	38.37	38.36	38.17	38.29	38.28	38.26	38.30	38.35	38.36	38.40	38.42	38.48
09/09/1999	38.42	38.44	38.32	38.28	38.29	38.28	38.30	38.36	38.38	38.42	38.44	38.49
28/10/1999	37.75	37.99	38.13	38.27	38.29	38.22	38.32	38.35	38.40	38.42	38.45	38.51
18/12/1999	38.24	38.24	38.24	38.24	38.24	38.24	38.25	38.35	38.45	38.47	38.48	38.53
30/01/2000	38.44	38.44	38.45	38.46	38.46	38.47	38.47	38.50	38.53	38.51	38.48	38.52
22/02/2000	38.36	38.36	38.36	38.36	38.37	38.38	38.39	38.43	38.44	38.45	38.45	38.45
28/03/2000	38.38	38.40	38.41	38.41	38.41	38.41	38.42	38.44	38.45	38.46	38.49	38.49
14/04/2000	38.37	38.37	38.37	38.36	38.36	38.37	38.39	38.44	38.47	38.49	38.51	38.52
25/05/2000	38.26	38.28	38.31	38.30	38.34	38.34	38.37	38.41	38.46	38.47	38.49	38.52
17/06/2000	38.15	38.20	38.34	38.35	38.37	38.37	38.40	38.42	38.45	38.49	38.46	38.48
21/07/2000	38.30	38.31	38.31	38.37	38.37	38.40	38.42	38.43	38.45	38.47	38.48	38.50
01/09/2000	38.39	38.39	38.30	38.34	38.35	38.35	38.38	38.39	38.42	38.44	38.46	38.49
23/09/2000	38.40	38.38	38.35	38.38	38.36	38.37	38.41	38.43	38.47	38.49	38.48	38.49
17/10/2000	38.07	38.08	38.08	38.21	38.33	38.34	38.40	38.42	38.45	38.46	38.47	38.50
06/12/2000	38.16	38.16	38.16	38.16	38.16	38.17	38.35	38.39	38.42	38.46	38.47	38.49
22/01/2001	38.17	38.20	38.22	38.22	38.23	38.23	38.24	38.26	38.33	38.38	38.39	38.43
20/02/2001	38.21	38.21	38.21	38.22	38.23	38.23	38.24	38.24	38.25	38.35	38.38	38.51
29/03/2001			38.21		38.28	38.34	38.35	38.39	38.44	38.47	38.51	38.55
27/04/2001	38.15	38.14	38.13	38.19	38.25	38.28	38.32	38.36	38.45	38.46	38.48	38.53
23/05/2001	38.29	38.29	38.29	38.29	38.36	38.36	38.42	38.45	38.48	38.50	38.50	38.54
29/06/2001	38.29	38.21	38.27	38.33	38.31	38.33	38.38	38.41	38.44	38.47	38.49	38.51
29/07/2001	38.26	38.29	38.39	38.37	38.39	38.39	38.44	38.45	38.46	38.48	38.50	38.54
29/08/2001	38.44	38.33	38.29	38.29	38.28	38.29	38.32	38.35	38.39	38.43	38.46	38.55
30/09/2001	38.26	38.27	38.29	38.30	38.34	38.35	38.38	38.41	38.45	38.47	38.49	38.52
31/10/2001	38.20	38.23	38.24	38.28	38.31	38.32	38.34	38.37	38.41	38.45	38.48	38.52
30/11/2001	38.11	38.11	38.11	38.10	38.09	38.12	38.34	38.34	38.38	38.43	38.46	38.52
11/12/2001	38.15	38.15	38.15	38.15	38.15	38.15	38.16	38.21	38.36	38.42	38.44	38.50
20/01/2002	38.32	38.32	38.32	38.32	38.33	38.33	38.33	38.34	38.39	38.45	38.46	38.50
25/02/2002	38.19	38.19	38.19	38.19	38.19	38.20	38.20	38.20	38.23	38.26	38.35	38.50
18/03/2002	38.01	38.03	38.06	38.14	38.18	38.18	38.19	38.22	38.28	38.38	38.38	38.45
05/04/2002	38.18	38.18	38.18	38.18	38.18	38.20	38.24	38.25	38.26	38.31	38.39	38.53
18/05/2002	37.92	37.92	38.04	38.08	38.19	38.22	38.25	38.34	38.37	38.41	38.47	38.53
25/06/2002	38.08	38.05	38.09	38.19	38.22	38.27	38.31	38.42	38.48	38.45	38.45	38.56
19/07/2002	37.99	37.99	38.09	38.21	38.23	38.26	38.28	38.32	38.38	38.38	38.41	38.50
18/08/2002	38.15	38.12	38.34	38.33	38.34	38.35	38.37	38.42	38.45	38.51	38.52	38.55
14/09/2002	38.09	38.10	38.11	38.27	38.30	38.33	38.36	38.39	38.42	38.46	38.49	38.52
04/12/2002	37.98	37.97	37.98	37.98	37.99	38.00	38.15	38.26	38.22	38.28	38.32	38.46
15/02/2003	38.26	38.26	38.26	38.26	38.26	38.26	38.26	38.26	38.26	38.26	38.27	38.34
13/03/2003	38.15	38.15	38.15	38.14	38.15	38.19	38.18	38.37	38.38	38.40	38.45	38.33
08/04/2003	38.27	38.27	38.27	38.27	38.27	38.27	38.28	38.28	38.28	38.30	38.39	38.44
14/05/2003	37.90	37.85	38.07	38.14	38.21	38.28	38.32	38.38	38.41	38.48	38.52	38.54
21/06/2003	38.21	38.07	38.17	38.22	38.26	38.27	38.32	38.36	38.40	38.42	38.44	38.49

Date	S 4 (psu)	S 10 (psu)	S 20 (psu)	S 30 (psu)	S 40 (psu)	S 50 (psu)	S 70 (psu)	S 90 (psu)	S 110 (psu)	S 130 (psu)	S 150 (psu)	S 200 (psu)
10/07/2003	38.05	38.02	38.19	38.22	38.25	38.28	38.33	38.38	38.40	38.44	38.46	38.53
01/08/2003	38.15	38.15	38.16	38.21	38.25	38.27	38.32	38.37	38.41	38.45	38.46	38.52
20/09/2003	38.36	38.33	38.25	38.10	38.51	38.31	38.30	38.35		38.44	38.47	
22/10/2003	38.21	38.21	38.21	38.21	38.08	37.93	38.11	38.20	38.26	38.30	38.34	38.43
30/11/2003	37.97	37.97	37.97	37.97	37.99	38.07	38.22	38.19	38.24	38.29	38.36	38.45
15/12/2003	38.03	38.03	37.99	37.99	38.06	38.07	38.21	38.22	38.36	38.39	38.41	38.44
26/02/2004	38.39	38.39	38.39	38.39	38.39	38.39	38.39	38.43	38.38	38.38	38.38	38.39
31/03/2004	38.39	38.39	38.39	38.40	38.40	38.40	38.41	38.41	38.42	38.42	38.43	38.43
26/04/2004	38.26	38.29	38.26	38.26	38.28	38.37	38.38	38.40	38.44	38.46	38.47	38.51
01/06/2004	38.36	38.28	38.34	38.31	38.32	38.35	38.40	38.45	38.48	38.50	38.52	38.54
29/06/2004	38.27	38.22	38.30	38.32	38.34	38.36	38.41	38.46	38.48	38.52	38.52	38.57
28/07/2004	38.39	38.32	38.29	38.36	38.38	38.41	38.43	38.45	38.47	38.50	38.53	38.55
30/08/2004	38.36	38.34	38.30	38.37	38.40	38.42	38.46	38.48	38.50	38.51	38.52	38.55
20/09/2004	38.25	38.25	38.36	38.19	38.30	38.38	38.42	38.45	38.48	38.50	38.50	38.54
27/10/2004	38.29	38.29	38.29	38.27	38.19	38.26	38.34	38.39	38.43	38.45	38.47	38.51
25/11/2004	38.60	38.60	38.61	38.61	38.59	38.63	38.68	38.72	38.77	38.83	38.83	38.85
14/12/2004	38.18	38.18	38.18	38.18	38.18	38.23	38.25	38.22	38.30	38.32	38.35	38.45
09/06/2005	38.43	38.42	38.36	38.37	38.42	38.44	38.44	38.46	38.48	38.48	38.49	38.51
02/07/2005	38.39	38.37	38.32	38.33	38.42	38.45	38.46	38.45	38.45	38.47	38.47	38.52
02/08/2005	38.45	38.40	38.34	38.38	38.39	38.41	38.44	38.45	38.46	38.47	38.49	38.52
25/10/2005	38.34	38.35	38.30	38.31	38.10	38.16	38.37	38.36	38.42	38.44	38.47	38.51
24/11/2005	38.33	38.33	38.33	38.33	38.32	38.29	38.36	38.40	38.42	38.45	38.47	38.54
19/12/2005	38.37	38.37	38.37	38.37	38.38	38.38	38.41	38.41	38.41	38.41	38.42	38.48

Supplementary Table 5: DYFAMED nitrate data ($\mu\text{mol l}^{-1}$) for the upper 200 m of the water column

Date	N 5	N 10	N 20	N 30	N 40	N 50	N 70	N 90	N 110	N 130	N 150	N 200
07/11/1993	0.38	0.39	0.38	0.41	0.38	0.53	2.85	4.46	5.09	5.31	5.99	7.03
06/12/1993	0.64	0.67	1.00	0.87	2.92	4.19	4.78	5.73	6.12	6.18	6.60	6.92
12/01/1994	3.18	3.16	3.19	3.34	3.24	3.45	4.07	5.41	6.12	7.05	5.92	6.48
01/02/1994	3.83	3.88	4.02	3.89	4.71	5.85	6.42	5.55	6.32	5.88	5.77	5.25
04/03/1994	1.75	1.68	1.69	1.73	2.25	3.33	6.34	7.12	7.78	7.99	8.16	8.16
07/04/1994	0.45	0.32	0.80	0.77	2.26	2.01	3.40	2.50	3.88	2.99	3.70	4.27
28/04/1994	0.00	0.00	0.00	0.43	0.48	0.93	0.76	0.75	6.44	6.62	7.64	8.22
02/06/1994	0.01	0.00	0.05	0.00	1.71	4.19	5.49	6.61	6.92	6.64	5.52	7.15
05/07/1994	0.00	5.15	0.15	0.81	2.74	3.92	5.64	6.32	6.53	7.10	7.23	7.80
21/08/1994	0.00	0.00	0.00	0.00	0.00	1.45	4.31	4.32	5.36	6.04	5.57	5.32
25/09/1994	0.00	0.00	0.00	0.00	0.02	2.03	6.73	7.45	7.58	7.83	8.16	8.48
15/10/1994	0.00	0.00	0.00	1.41	4.55	6.88	6.92	6.92	7.66	8.19	8.16	7.96
20/11/1994	0.00	0.00	0.00	0.00	1.58	3.98	5.82	6.73	6.78	7.55	6.14	4.19
17/01/1995	3.94	3.96	4.14	4.10	4.14	4.18	4.22	4.25	5.54	5.04	5.50	6.01
10/02/1995	2.68	2.38	2.37	2.53	2.27	3.41	6.71	6.93	7.93	7.16	7.58	7.05
09/03/1995	3.50	3.50	3.75	3.98	4.02	4.66	7.03	7.13	7.30	6.97	7.36	8.12
10/04/1995	0.53	0.98	1.61	3.18	3.57	4.40	4.73	5.62	5.83	6.22	6.19	6.20
11/05/1995	0.04	0.08	0.31	3.42	5.48	6.50	7.15	7.46	7.61	7.76	8.34	8.14
08/06/1995	0.00	0.03	0.15	2.20	4.34	6.68	7.75	8.07	8.14	8.23	8.32	8.48
07/07/1995	0.09	0.01	0.01	0.01	0.00	1.20	7.37	7.67	7.91	7.75	7.86	8.17
14/09/1995	0.00	0.00	0.08	0.33	2.95	5.68	6.75	6.93	7.05	7.21	7.36	7.58
05/10/1995	0.00	0.08	0.00	0.10	1.16	5.33	6.99	7.37	7.55	8.00	7.99	8.57
15/11/1995	0.00	0.03	0.01	0.00	0.25	3.04	5.67	5.73	6.21	6.77	7.08	7.68
01/03/1996	1.87	2.13	2.12	2.32	2.72	3.33	3.94	5.50	5.05	6.39	6.46	7.88
05/04/1996	0.28	0.32	0.87	1.13	1.92	3.23	6.15	5.70	7.49	6.42	7.21	7.40
23/05/1996	0.00	0.00	0.00	0.21	3.24	5.22	6.07	6.70	6.97	7.29	7.42	7.77
10/07/1996	0.12	0.00	0.00	0.00	0.08	2.16	3.64	3.85	4.43	5.27	4.89	5.15
25/08/1996		0.00	0.00	0.00	0.00	0.46	4.07		6.88	7.35	7.74	8.19
01/10/1996	0.00	0.00	0.00	0.00	0.00	0.09	2.94	4.72	5.04	5.22	5.53	6.31
03/12/1996	0.72	0.70	0.95	1.29	1.30	1.63	1.70	2.90	5.09	5.17	7.34	6.70
23/02/1997	1.99	2.47	2.70	1.92	1.89	2.00	2.25	3.74	4.43	5.49	6.91	7.42
22/03/1997	0.04	0.03	0.12	0.83	2.58	3.36	4.84	5.46	6.87	7.61	8.11	8.09
15/04/1997	0.00	0.00	0.00	0.67	1.99	2.55	5.31	6.36	7.23	7.65	7.90	7.95
15/05/1997	0.00	0.00	0.00	0.00	0.05	1.45	3.88	4.68	5.96	5.21	6.24	5.67
19/06/1997	0.00	0.00	0.00	0.00	0.00	0.52	3.60	4.87	4.62	4.55	5.90	6.11
12/07/1997	0.00	0.00	0.00	0.00	0.10	2.55	5.74	6.78	6.17	6.81	7.52	7.45
01/09/1997	0.04	0.00	0.00	0.00	0.00	3.02	6.31	8.40	7.79	7.33	7.50	7.94
18/11/1997	0.00	0.00	0.08	0.00	0.10	0.41	1.87	4.38	4.98	4.92	5.69	7.36
04/12/1997	0.00	0.00	0.00	0.00	0.08	0.32	1.99	3.43	3.67	5.07	5.28	3.88
26/01/1998	0.34	0.62	1.05	1.71	2.28	2.77	3.23	6.57	6.47	6.10	7.17	8.34
06/02/1998	1.33	1.56	1.63	1.43		1.60	2.13	1.80	2.28	3.86	5.09	4.93
16/03/1998	2.76	2.76	2.90	3.93	4.07	5.41	4.78	4.73	5.88	7.66	7.34	8.65
25/04/1998	0.00	0.00	0.32	0.91	4.58	5.91	6.64	7.12	7.86	5.33	8.17	9.83
06/05/1998	0.00	0.10	0.00	0.26	0.95	1.93	4.37	4.02	4.74	6.01	6.16	6.02
16/06/1998	0.00	0.00	0.00	0.00	0.23	2.50	4.30	5.27	5.92	6.66	7.09	7.70
22/07/1998	0.00	0.00	0.00	0.00	0.51	2.65	5.81	6.54	5.60	6.80	7.39	5.69
18/08/1998	0.03	0.00	0.00	0.08	0.50	1.76	5.10	5.33	5.55	6.56	6.31	6.49
01/09/1998	0.18	0.19	0.16	0.20	0.35	1.17	4.29	6.53	4.57	5.29	6.21	6.49
10/10/1998	0.00	0.00	0.00	2.56	3.39	4.31	5.23	5.76	6.13	6.51	6.51	6.57
08/12/1998	2.60	2.53	2.53	1.95	2.16	2.39	2.69	2.68	2.54	2.25	2.62	3.52
21/02/1999	1.39		2.78	3.53	3.82	3.29	3.84	4.19	5.05	5.33	5.67	7.05
24/02/1999	3.43	1.77	3.99	4.87	6.32	4.88	6.71	5.04	4.90	6.85		7.01
19/03/1999	4.69	4.21	4.81	4.93	5.15	5.28	5.36	5.51	5.46	5.46	5.62	6.71
11/04/1999	0.51	4.68	0.80	1.32	1.54	2.90	4.02	5.37	5.45	6.13	6.53	6.15
15/05/1999	0.00	0.62	0.02	0.61	1.54	2.82	4.47	5.91	6.78	7.00	7.66	7.81

Date	N 5	N 10	N 20	N 30	N 40	N 50	N 70	N 90	N 110	N 130	N 150	N 200
12/06/1999	0.00	0.00	0.00	1.31	0.11	2.99	5.53	6.36	7.00	6.87	7.52	7.07
10/07/1999	0.00	0.00	0.00	0.10	0.65	2.77	4.56	4.74	5.52	6.20	6.01	7.00
26/08/1999	0.00	0.00	0.00	0.00	0.96	2.89	3.95	4.89	5.64	5.96	6.85	7.30
09/09/1999	0.00	0.00	0.00	0.00	0.27	0.45	4.03	5.10	5.53	5.66	6.51	6.61
28/10/1999	0.28	0.00	0.18	0.00	0.00	0.17	3.43	5.18	6.25	6.38	6.70	6.79
18/12/1999	1.25	0.16	1.25	1.26	1.41	1.15	1.45	2.22	5.22	6.17	6.06	6.93
18/12/1999		1.10										
30/01/2000	6.19	6.27	6.46	6.54	6.36	7.07	7.36	7.66	8.72	8.07	8.02	7.79
22/02/2000	3.25	3.41	3.80	3.80		3.55		5.22	5.84	5.52	5.42	5.94
28/03/2000	2.24	2.48	2.60	2.72	2.60	2.83	5.97	6.14	5.84	6.87	7.20	7.48
14/04/2000	2.03	2.11	2.11	2.41	2.31	2.36	3.48	4.19	6.92	7.10	7.54	6.83
25/05/2000	0.00	0.00	0.00	0.00	0.54	2.84	4.83	6.13	5.30	7.43	6.29	5.88
17/06/2000	0.00	0.00	0.00	1.11	4.55	6.12	6.70	6.56	7.28	7.42	8.65	7.69
21/07/2000	0.00	0.00	0.17	1.67	3.44	5.58	6.71	7.12	7.46	7.88	7.61	7.56
01/09/2000	0.01	0.02	0.00	0.00	0.09	4.53	6.67	6.58	6.85	7.40	7.92	7.70
23/09/2000	0.00	0.00	0.00	1.38	5.57	5.57	6.18	6.27	5.85	6.76	6.72	6.99
17/10/2000	0.00	0.00	0.00	0.00	0.63	1.75	5.72	6.75	6.54	7.53	7.25	6.04
06/12/2000	0.00	0.00	0.00	0.00	0.00	1.18	5.89	6.68	7.40	7.02	7.13	7.66
20/02/2001	2.02	1.89	1.99	2.09	2.04	2.15	2.42	2.38	2.74	5.81	6.21	6.49
26/04/2001	0.00	0.00	0.00	0.17	1.04	2.79	4.36	5.39	6.80	6.86	6.74	7.67
23/05/2001	0.00	0.00	0.00	0.06	0.65	0.93	2.91	3.59	3.99	4.25	2.86	5.00
29/06/2001	0.00	0.00	0.00	0.00	2.64	4.74	4.75	4.20	5.93	6.59	6.62	6.14
29/07/2001	0.00	0.00	0.00	0.96	3.79	6.78	5.66	7.54	8.11	7.78	7.83	8.73
29/08/2001	0.03	0.03	0.02	0.03	0.63		5.17	6.47	6.92	7.52	7.64	8.29
30/09/2001			0.08	0.62	1.59	4.51		8.08	8.70	8.90	8.66	9.63
31/10/2001	0.09	0.09	0.38	0.47	1.84	3.03	4.48	6.11	7.43	7.77	8.20	8.11
30/11/2001	0.02	0.06	0.36	0.45	1.82	3.03	4.49	6.21	7.59	7.84		8.15
11/12/2001	0.39	0.35	0.35	0.39	0.54	0.47	0.70		4.90	7.46	6.92	7.23
20/01/2002	4.85		6.13	5.95	5.39	6.23	5.95	4.78	7.48	8.24	8.12	8.59
18/03/2002	0.33	0.80	3.06	2.04	2.43	2.88	2.79	3.44	4.37	6.07	7.18	7.30
05/04/2002	0.00	0.00	0.08	1.26	0.58	0.97	1.48	2.27	2.04	2.27	2.42	3.50
18/05/2002	0.00	0.00	0.00	0.00	3.10	3.38	4.52	5.81	6.18	6.74	6.94	7.51
25/06/2002	0.00	0.37	0.00	0.00	0.13	2.69	5.62	6.03	6.38	6.62	5.38	4.97
19/07/2002	0.00	0.00	0.00	0.00	1.05	3.24	4.94	4.71	6.41	6.96	6.83	8.15
18/08/2002	0.07	0.00	0.00	0.70	2.27	4.88	6.47	4.18	5.43	8.97	6.61	6.80
14/09/2002	0.00	0.00	0.00	0.00	0.01	0.33	5.81	7.35	7.82	8.35	8.65	8.92
14/10/2002	0.88	0.01	0.88	0.81	0.54	3.76	7.10	6.85	7.86	8.75	8.95	9.22
25/11/2002	0.00	0.00	0.00	0.00	0.31	1.97	3.69	4.61	5.53	4.86	5.29	6.53
15/02/2003	2.73	2.88	3.32	3.57	3.11	3.49	3.40	2.91	2.66	2.78	1.73	3.82
14/03/2003	0.00	0.00	0.16	0.12	3.25	1.40	1.58	2.09	5.40	5.03	3.76	6.75
08/04/2003	1.50	1.16	1.36	1.29	1.37	2.02	1.51	1.65	1.57	1.93	1.61	3.37
14/05/2003		0.05	0.00	0.00	0.78	3.01	3.39	3.66	3.76	6.01	5.55	4.42
10/07/2003	0.00	0.00	0.00	0.10	1.64	3.47	6.10	7.05	7.20	7.65	7.65	8.03
01/08/2003	0.00	0.00	0.00	0.00	0.00	0.16	3.37	5.53	5.20	5.53	5.00	6.52
20/09/2003	0.00	0.00	0.00	0.00		0.00	0.62	4.45	2.67	2.74	2.20	7.31
22/10/2003	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	2.70	3.97	3.43	5.44
30/11/2003	2.25	1.75	0.00	0.17	0.25	0.73	2.25	3.59	4.96	4.46	6.31	5.44
26/01/2004	1.73	1.99	2.96	3.08	3.22	3.38	3.11	4.83	5.57	6.16	6.43	4.67
25/02/2004		4.83	5.97	4.76	4.74	4.74	5.69	5.03	5.33	5.24	4.32	4.98
31/03/2004	3.14	3.35	3.23	3.51	3.86	3.38	3.81	3.38	4.01	3.87	3.63	4.47
26/04/2004	0.00	0.03	0.00	0.39	0.85	0.55		2.58	4.75	5.85		
01/06/2004	0.59	0.55	0.70	0.52	1.15	2.20	2.56	2.23	2.59	3.17	2.47	4.29
29/06/2004	0.23	0.01	0.00	0.46	3.69	5.20	6.41	7.16	7.54	7.69	7.95	8.06
28/07/2004	0.23		0.87		1.87	4.97	7.34		7.68			
30/08/2004	0.00	0.00	0.92	1.53	4.02	5.75	7.04	7.34	7.40	7.32	7.61	8.07
20/09/2004	0.00	0.00	0.00	0.00	0.08	0.19	6.17	7.36	7.57	8.09	7.96	7.97
27/10/2004	0.26	0.05	0.25	0.01	0.11	1.06	4.02	4.99	6.96	4.97	4.47	8.23

Date	N 5	N 10	N 20	N 30	N 40	N 50	N 70	N 90	N 110	N 130	N 150	N 200
25/11/2004	0.00	0.00	0.00	0.00	1.52	1.03	4.99		4.91	5.89	6.64	5.10
14/12/2004		0.00		0.92				3.66	4.01	4.34	3.82	6.43
03/02/2005	4.85	5.77	6.12	6.33	6.47	6.68	6.75	6.81	6.88	6.88	6.88	6.88
29/03/2005	0.53	0.47	2.07	1.80	0.93	1.21	1.76	2.31	2.27	2.96	4.35	4.71
25/04/2005	0.00	0.00	0.00	0.00	0.00	0.00	1.82	2.43	3.96	4.28	4.52	5.00
09/06/2005	0.06	0.00	0.00	0.00	1.65	1.35		5.74	5.47	4.68	6.51	4.78
02/07/2005	0.00	0.00	0.00	1.94	2.47	4.25	4.98	5.47	5.44	5.47	5.71	6.36
02/08/2005	0.00	0.06	0.00	0.62	1.76	3.72	4.99	5.88		6.52	6.10	4.92
27/09/2005	0.00	0.00	0.11	0.00	0.03	1.97	5.25	6.93	7.57	8.05	7.91	8.05
25/10/2005	0.08	0.54	0.08	0.08	0.43	1.12	4.06	6.29	7.21	7.10	7.02	8.29
24/11/2005	0.70	0.72	0.86	0.99	1.43	2.91	6.12	6.98	7.36	7.72	7.81	
19/12/2005	4.11	4.09	4.40		4.31	4.34	4.96	5.51	5.02	4.91	4.99	6.35

Supplementary Table 6: DYFAMED phosphate data ($\mu\text{mol l}^{-1}$) for the upper 200 m of the water

column

Date	P 5	P 10	P 20	P 30	P 40	P 50	P 70	P 90	P 110	P 130	P 150	P 200
07/11/1993	0.07	0.05	0.00	0.10	0.10	0.09	0.15	0.23	0.26	0.24	0.23	0.25
06/12/1993	0.05	0.04	0.05	0.05	0.11	0.17	0.19	0.25	0.27	0.27	0.30	0.32
12/01/1994	0.26	0.23	0.23	0.20	0.18	0.17	0.19	0.19	0.19	0.19	0.17	0.19
01/02/1994	0.21	0.19	0.21	0.25	0.23	0.23	0.25	0.23	0.25	0.27	0.28	0.28
04/03/1994	0.14	0.15	0.15	0.15	0.11	0.20	0.33	0.38	0.43	0.43	0.44	0.46
07/04/1994	0.04	0.03	0.06	0.07	0.09	0.13	0.24	0.22	0.25	0.36	0.26	0.29
28/04/1994	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.09	0.22	0.23	0.25	0.28
02/06/1994	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.00
05/07/1994	0.03	0.22	0.03	0.02	0.04	0.08	0.22	0.24	0.27	0.31	0.32	0.36
17/01/1995	0.15	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.23	0.22	0.23	0.25
10/02/1995	0.08	0.06	0.06	0.07	0.07	0.12	0.26	0.31	0.33	0.32	0.34	0.37
09/03/1995	0.12	0.11	0.12	0.13	0.15	0.19	0.32	0.33	0.34	0.35	0.36	0.39
10/04/1995	0.00	0.02	0.02	0.08	0.11	0.16	0.17	0.22	0.22	0.25	0.24	0.25
11/05/1995	0.02	0.01	0.02	0.09	0.22	0.28	0.31	0.32	0.33	0.35	0.36	0.38
08/06/1995	0.00	0.00	0.00	0.01	0.04	0.24	0.33	0.35	0.35	0.36	0.35	0.36
07/07/1995	0.02	0.00	0.00	0.00	0.00	0.00	0.32	0.35	0.37	0.36	0.36	0.39
14/09/1995	0.04	0.03	0.01	0.00	0.04	0.11	0.24	0.25	0.28	0.30	0.28	0.28
05/10/1995	0.02	0.03	0.03	0.02	0.03	0.14	0.28	0.30	0.31	0.33	0.35	0.36
15/11/1995	0.00	0.00	0.00	0.00	0.00	0.03	0.17	0.18	0.21	0.23	0.26	0.29
01/03/1996	0.08	0.08	0.10	0.10	0.13	0.15	0.18	0.25	0.23	0.30	0.34	0.37
05/04/1996	0.06	0.09	0.09	0.11	0.12	0.17	0.27	0.28	0.33	0.34	0.34	0.38
23/05/1996	0.05	0.06	0.04	0.05	0.08	0.24	0.30	0.34	0.36	0.37	0.40	0.43
10/07/1996	0.03	0.02	0.02	0.00	0.00	0.03	0.18	0.19	0.20	0.23	0.24	0.26
25/08/1996		0.04	0.03	0.01	0.00	0.02	0.04		0.24	0.26	0.28	0.30
01/10/1996	0.03	0.02	0.02	0.03	0.02	0.02	0.06	0.21	0.23	0.24	0.28	0.31
03/12/1996	0.01	0.01	0.00	0.00	0.00	0.03	0.03	0.09	0.19	0.22	0.30	0.27
23/02/1997	0.22	0.24	0.23	0.15	0.11	0.09	0.13	0.20	0.23	0.31	0.35	0.40
22/03/1997	0.01	0.02	0.03	0.03	0.06	0.10	0.17	0.22	0.25	0.29	0.33	0.34
15/04/1997	0.00	0.00	0.00	0.00	0.01	0.04	0.19	0.26	0.29	0.33	0.34	0.35
15/05/1997	0.00	0.01	0.02	0.01	0.00	0.01	0.20	0.26	0.31	0.30	0.35	0.34
19/06/1997	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.24	0.24	0.25	0.32	0.34
12/07/1997	0.03	0.00	0.00	0.00	0.00	0.00	0.24	0.30	0.32	0.35	0.36	0.38
01/09/1997	0.02	0.04	0.01	0.01	0.00	0.04	0.27	0.33	0.35	0.35	0.37	0.39
18/11/1997	0.04	0.05	0.04	0.07	0.08	0.09	0.12	0.21	0.25	0.22	0.25	0.32
04/12/1997	0.01	0.01	0.01	0.00	0.01	0.01	0.06	0.12	0.10	0.20	0.22	0.19
26/01/1998	0.01	0.03	0.05	0.05	0.08	0.10	0.12	0.27	0.27	0.28	0.29	0.36
06/02/1998	0.05	0.06	0.07	0.07		0.07	0.09	0.08	0.10	0.19	0.24	0.24
16/03/1998	0.05	0.05	0.07	0.12	0.15	0.23	0.17	0.17	0.25	0.35	0.36	0.42
25/04/1998	0.06	0.05	0.04	0.06	0.17	0.27	0.33	0.36	0.40	0.36	0.43	0.47
06/05/1998	0.02	0.04	0.02	0.04	0.03	0.06	0.20	0.22	0.27	0.32	0.33	0.36
16/06/1998	0.02	0.03	0.02	0.01	0.01	0.03	0.20	0.24	0.30	0.32	0.35	0.38
22/07/1998	0.02	0.02	0.01	0.01	0.01	0.06	0.27	0.30	0.29	0.34	0.37	0.33
18/08/1998	0.02	0.02	0.01	0.02	0.01	0.03	0.13	0.25	0.30	0.32	0.31	0.33
01/09/1998	0.01	0.01	0.00	0.01	0.01	0.01	0.16	0.22	0.22	0.29	0.31	0.33
10/10/1998	0.00	0.00	0.00	0.00	0.03	0.12	0.20	0.22	0.26	0.26	0.29	0.29
21/02/1999	0.05		0.14	0.15	0.18	0.21	0.18	0.16	0.21	0.23	0.29	0.34
24/02/1999	0.14	0.08	0.15	0.19	0.23	0.20	0.26	0.21	0.22	0.25		0.29
19/03/1999		0.17										
15/05/1999	0.16		0.12	0.23	0.11	0.21	0.35	0.37	0.40	0.41	0.37	0.39
12/06/1999	0.00	0.10	0.00	0.00	0.00	0.00	0.16	0.24	0.33	0.32	0.33	0.35
10/07/1999	0.00	0.00	0.00	0.00								
26/08/1999		0.00										
28/10/1999	0.00		0.00	0.00	0.00	0.01	0.07	0.19	0.24	0.27	0.32	0.31

Date	P 5	P 10	P 20	P 30	P 40	P 50	P 70	P 90	P 110	P 130	P 150	P 200
18/12/1999	0.06	0.00	0.05	0.06	0.05	0.06	0.08	0.12	0.25	0.31	0.33	0.34
18/12/1999		0.05										
30/01/2000	0.20	0.24	0.24	0.26	0.23	0.26	0.26	0.28	0.31	0.31	0.29	0.27
22/02/2000	0.11	0.11	0.15	0.20		0.14		0.21	0.26	0.23	0.24	0.27
28/03/2000	0.14	0.12	0.11	0.14	0.11	0.15	0.25	0.25	0.24	0.33	0.33	0.32
14/04/2000	0.04	0.04	0.06	0.09	0.06	0.07	0.14	0.15	0.27	0.30	0.33	0.30
25/05/2000	0.00	0.00	0.00	0.00	0.11	0.19	0.10	0.19	0.11	0.26	0.20	0.14
17/06/2000	0.00	0.00	0.00	0.00	0.06	0.20	0.27	0.26	0.27	0.28	0.36	0.31
21/07/2000	0.00	0.00	0.13	0.18	0.14	0.31	0.33			0.20	0.27	
01/09/2000	0.09	0.00	0.00	0.00	0.03	0.05	0.19	0.16	0.40	0.37	0.34	0.42
23/09/2000	0.11	0.10	0.06	0.09	0.22	0.23	0.24	0.23	0.23	0.29	0.33	0.33
06/12/2000	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.20	0.26	0.27	0.27	0.29
20/02/2001	0.08	0.05	0.08	0.05	0.04	0.07	0.09	0.08	0.12	0.23	0.27	0.25
26/04/2001	0.03	0.03	0.00	0.00	0.01	0.04	0.14	0.19	0.25	0.26	0.29	0.32
23/05/2001	0.01	0.01	0.01	0.01	0.01	0.01	0.13	0.22	0.24	0.23	0.23	0.24
29/06/2001	0.00	0.03	0.02	0.05	0.08	0.10	0.23	0.23	0.21	0.31	0.31	0.39
29/07/2001	0.00	0.00	0.00	0.00	0.02	0.14	0.25	0.30	0.30	0.29	0.32	0.33
29/08/2001	0.04	0.05	0.03	0.05	0.03		0.19	0.29	0.31	0.33	0.35	0.37
30/09/2001			0.04	0.04	0.04	0.05		0.29	0.35	0.35	0.35	0.40
31/10/2001	0.01	0.02	0.01	0.02	0.01	0.04	0.15	0.20	0.30	0.34	0.36	0.37
30/11/2001	0.03	0.03	0.04	0.04	0.03	0.06	0.13	0.21	0.23	0.23		0.24
11/12/2001	0.04	0.04	0.03	0.03	0.05	0.05	0.04		0.18	0.32	0.32	0.35
20/01/2002	0.22		0.21	0.20	0.20	0.22	0.20	0.23	0.34	0.31	0.38	0.39
18/03/2002	0.01	0.02	0.02	0.01	0.05	0.08	0.08	0.12	0.17	0.29	0.29	0.33
05/04/2002	0.02	0.05	0.06	0.03	0.03	0.06	0.10	0.11	0.12	0.22	0.25	0.26
18/05/2002	0.02	0.02	0.02	0.03	0.04	0.10	0.15	0.21	0.22	0.24	0.26	0.29
25/06/2002	0.03	0.02	0.02	0.03	0.02	0.04	0.22	0.27	0.28	0.29	0.23	0.14
19/07/2002	0.02	0.02	0.02	0.02	0.03	0.07	0.08	0.20	0.27	0.24	0.26	0.33
18/08/2002	0.04	0.04	0.02	0.02	0.03	0.13	0.21	0.22	0.24	0.35	0.32	0.34
14/09/2002	0.04	0.04	0.02	0.02	0.02	0.01	0.09	0.28	0.31	0.33	0.33	0.35
14/10/2002	0.01	0.01	0.02	0.08	0.04	0.05	0.20	0.29	0.32	0.34	0.35	0.38
25/11/2002	0.01	0.02	0.01	0.01	0.02	0.08	0.14	0.16	0.19	0.19	0.21	0.29
15/02/2003	0.11	0.11	0.12	0.12	0.11	0.12	0.12	0.11	0.10	0.10	0.07	0.15
14/03/2003	0.00	0.00	0.02	0.00	0.10	0.06	0.10	0.12	0.21	0.20	0.20	0.26
08/04/2003	0.03	0.03	0.04	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.16
14/05/2003		0.01	0.02	0.00	0.00	0.07	0.13	0.15	0.18	0.24	0.24	0.22
10/07/2003	0.00	0.00	0.00	0.00	0.02	0.06	0.22	0.28	0.30	0.32	0.33	0.31
01/08/2003	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.15	0.21	0.22	0.22	0.29
20/09/2003	0.00	0.00	0.17	0.21		0.00	0.08	0.17	0.20	0.19	0.18	0.38
22/10/2003	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.10	0.15	0.14	0.13
30/11/2003	0.00	0.01	0.00	0.00	0.01	0.00	0.06	0.08	0.16	0.13	0.21	0.28
26/01/2004	0.06	0.06	0.10	0.10	0.10	0.11	0.12	0.21	0.25	0.28	0.25	0.25
25/02/2004		0.15	0.16	0.16	0.14	0.14	0.14	0.18	0.18	0.19	0.17	0.17
31/03/2004	0.13	0.12	0.12	0.14	0.13	0.13	0.14	0.13	0.15	0.14	0.15	0.18
26/04/2004	0.00	0.00	0.00	0.02	0.02	0.01		0.08	0.18	0.24		
01/06/2004	0.02	0.01	0.01	0.02	0.00	0.14	0.24	0.25	0.28	0.30	0.23	0.42
29/06/2004						0.05	0.09	0.33	0.30	0.30	0.31	0.32
28/07/2004	0.05		0.04		0.05	0.09	0.34		0.39			
30/08/2004	0.08	0.07	0.07	0.07	0.09	0.15	0.25	0.25	0.27	0.26	0.27	0.28
20/09/2004	0.02	0.02	0.02	0.00	0.00	0.00	0.04	0.22	0.24	0.25	0.29	0.26
27/10/2004	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.11	0.20	0.20	0.23
25/11/2004	0.06	0.05	0.06	0.07	0.05	0.11	0.14		0.19	0.19	0.24	0.28
14/12/2004		0.11		0.13				0.16	0.21	0.25	0.30	0.30
03/02/2005	0.18	0.19	0.22	0.22	0.22	0.23	0.24	0.24	0.24	0.25	0.24	0.24
29/03/2005	0.01	0.01	0.05	0.04	0.01	0.04	0.05	0.06	0.07	0.09	0.13	0.22
25/04/2005	0.00	0.00	0.00	0.00	0.00	0.02	0.12	0.14	0.22	0.25	0.23	0.30
09/06/2005	0.00	0.02	0.00	0.00	0.00	0.00		0.19	0.21	0.21	0.24	0.26

Date	P 5	P 10	P 20	P 30	P 40	P 50	P 70	P 90	P 110	P 130	P 150	P 200
02/07/2005	0.02	0.02	0.02	0.06	0.05	0.16	0.23	0.26	0.26	0.27	0.27	0.33
02/08/2005	0.01	0.02	0.00	0.00	0.00	0.04	0.21	0.22		0.29	0.29	0.28
27/09/2005	0.00	0.00	0.02	0.00	0.00	0.05	0.11	0.25	0.28	0.30	0.31	0.35
25/10/2005	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.22	0.28	0.25	0.26	0.28
24/11/2005	0.01	0.01	0.01	0.01	0.03	0.07	0.20	0.28	0.31	0.32	0.34	
19/12/2005	0.14	0.14	0.15		0.16	0.17	0.19	0.22	0.19	0.19	0.20	0.27

Supplementary Table 7: DYFAMED pH data for the upper 200 m of the water column

Date	pH 5	pH 10	pH 20	pH 30	pH 40	pH 50	pH 70	pH 90	pH 110	pH 130	pH 150	pH 200
06/02/1998	8.12	8.12	8.11	8.12	8.12	8.12	8.11	8.11	8.10	8.09	8.08	8.08
16/03/1998	8.12	8.12	8.11	8.11	8.10	8.09	8.10	8.10	8.08	8.07	8.06	8.06
25/04/1998	8.10	8.12	8.12	8.11	8.07	8.06	8.06	8.05	8.05	8.05	8.05	8.05
06/05/1998	8.13	8.13	8.14	8.14	8.12	8.10	8.08	8.08	8.07	8.06	8.06	8.06
16/06/1998	8.09	8.10	8.14	8.15	8.13	8.09	8.08	8.08	8.06	8.06	8.06	8.05
19/08/1998	8.02	8.04	8.15	8.11	8.09	8.06	8.05	8.05	8.06	8.04	8.05	8.05
04/09/1998	8.08	8.11	8.14	8.11	8.07	8.06	8.07	8.06	8.05	8.05	8.05	8.06
10/10/1998	8.11	8.10	8.10	8.09	8.08	8.08	8.07	8.07	8.07	8.06	8.06	8.06
09/12/1998	8.12	8.12	8.12	8.09	8.06	8.06	8.07	8.07	8.08	8.07	8.06	8.05
26/01/1999	8.13	8.12	8.12	8.12	8.11	8.10	8.10	8.06	8.07	8.06	8.06	8.06
21/02/1999	8.10	8.10	8.10	8.10	8.09	8.09	8.09	8.09	8.08	8.08	8.07	8.06
19/03/1999	8.11	8.10	8.11	8.10	8.10	8.10	8.09	8.10	8.09	8.09	8.09	8.08
11/04/1999	8.13	8.13	8.13	8.13	8.12	8.10	8.09	8.08	8.08	8.07	8.07	8.07
15/05/1999	8.08	8.09	8.13	8.12	8.11	8.10	8.10	8.08	8.07	8.07	8.07	8.07
12/06/1999	8.04	8.04	8.09	8.14	8.14	8.10	8.08	8.07	8.07	8.06	8.06	8.06
10/07/1999	8.03	8.04	8.13	8.13	8.12	8.09	8.08	8.08	8.08	8.07	8.07	8.06
03/10/1999	8.07	8.07	8.14	8.12	8.10	8.07	8.06	8.06	8.06	8.06	8.06	8.06
28/10/1999	8.10	8.10	8.11	8.12	8.12	8.10	8.08	8.08	8.07	8.07	8.07	8.07
18/12/1999	8.12	8.12	8.12	8.12	8.11	8.12	8.11	8.10	8.07	8.06	8.06	8.06
30/01/2000	8.08	8.08	8.08	8.08	8.08	8.07	8.07	8.06	8.06	8.06	8.06	8.06
22/02/2000	8.11	8.11	8.11	8.10	8.10	8.10	8.09	8.08	8.08	8.08	8.08	8.07
01/08/2003	8.12	8.12	8.12	8.11	8.11	8.09	8.03	8.03	8.03	8.01	8.03	8.02
20/09/2003	8.03	8.03	8.05	8.09	8.08	8.08	8.07	8.04	8.04	8.04	8.04	8.05
15/12/2003	8.12	8.10	8.11	8.11	8.07	8.06	8.06	8.05	8.05	8.04	8.04	8.03
25/02/2004	8.06	8.07	8.07	8.07	8.06	8.06	8.06	8.05	8.05	8.07	8.07	8.05
31/03/2004	8.06	8.06	8.06	8.07	8.07	8.08	8.06	8.06	8.06	8.07	8.06	8.06
26/04/2004	8.12	8.12	8.11	8.11	8.11	8.10	8.09	8.08	8.06	8.05	8.05	8.04
01/06/2004	8.06	8.08	8.12	8.12	8.08	8.05	8.05	8.05	8.04	8.04	8.04	8.03
29/06/2004	8.03	8.09	8.09	8.10	8.07	8.06	8.05	8.05	8.05	8.05	8.05	8.04
27/07/2004	8.01	8.01	8.11	8.12	8.09	8.05	8.05	8.05	8.04	8.04	8.04	8.04
30/08/2004	8.06	8.07	8.11	8.09	8.05	8.05	8.05	8.05	8.04	8.04	8.05	8.04
27/10/2004	8.09	8.10	8.09	8.09	8.09	8.07	8.05	8.04	8.03	8.04	8.04	8.04
14/12/2004							8.10	8.05	8.05	8.04	8.04	8.04
09/06/2005	8.10	8.10	8.13	8.15	8.13	8.12	8.09	8.07	8.07	8.06	8.06	8.05
02/08/2005	8.04	8.07	8.13	8.12	8.09	8.06	8.06	8.06	8.06	8.05	8.05	8.04
25/10/2005	8.11	8.10	8.10	8.10	8.09	8.08	8.07	8.07	8.06	8.06	8.06	8.06
24/11/2005	8.12	8.12	8.12	8.11	8.11	8.11	8.07	8.07	8.06	8.06	8.06	8.05
19/12/2005	8.08	8.08	8.08	8.08	8.08	8.08	8.07	8.07	8.08	8.07	8.07	8.06

Supplementary Table 8: DYFAMED CO₂ data (mmol kg⁻¹) for the upper 200 m of the water column

Date	CO ₂ 5	CO ₂ 10	CO ₂ 20	CO ₂ 30	CO ₂ 40	CO ₂ 50	CO ₂ 70	CO ₂ 90	CO ₂ 110	CO ₂ 130	CO ₂ 150	CO ₂ 200
06/02/1998	13.90	13.84	14.05	14.00	13.99	13.98	14.14	14.17	14.48	15.08	15.69	15.71
16/03/1998	14.18	14.12	14.37	14.72	15.08	15.45	14.98	15.03	15.49	15.99	16.13	16.44
25/04/1998	13.79	13.50	13.74	14.15	16.11	16.48	16.69	16.76	17.04	17.03	16.96	16.79
06/05/1998	12.98	12.99	12.91	13.19	13.95	14.79	15.50	15.74	15.98	16.33	16.42	16.38
16/06/1998	13.16	13.08	12.58	12.73	13.62	15.04	15.53	15.80	16.27	16.33	16.46	16.51
19/08/1998	12.82	12.94	12.08	14.01	15.28	16.67	17.11	16.75	16.51	17.16	17.02	16.69
04/09/1998	12.20	12.37	12.76	14.03	15.83	16.61	16.28	16.63	16.94	16.87	16.80	16.49
10/10/1998	12.69	13.02	13.17	14.37	15.56	15.79	16.08	16.22	16.04	16.60	16.46	16.44
09/12/1998	13.46	13.53	13.54	14.80	16.06	16.33	16.03	15.72	15.42	16.01	16.29	17.00
26/01/1999	13.72	13.86	14.13	14.15	14.66	14.92	14.94	16.23	16.08	16.18	16.29	16.18
21/02/1999	14.98	15.04	15.17	15.06	15.43	15.30	15.32	15.40	15.63	15.72	15.86	16.30
19/03/1999	14.69	15.26	14.80	14.88	15.06	15.18	15.25	15.15	15.19	15.31	15.28	15.78
11/04/1999	13.50	13.49	13.60	13.82	14.06	14.73	15.21	15.65	15.76	15.86	15.93	15.79
15/05/1999	13.67	13.58	13.32	13.88	14.41	14.59	14.92	15.56	15.89	15.97	15.97	15.97
12/06/1999	13.88	13.84	13.37	12.90	13.04	14.91	15.66	16.02	16.26	16.39	16.42	16.52
10/07/1999	13.52	13.60	12.77	13.45	14.07	15.31	15.54	15.59	15.56	15.86	15.94	16.15
03/10/1999	12.47	12.57	12.55	13.62	14.95	16.06	16.60	16.64	16.64	16.61	16.57	16.38
28/10/1999	12.05	12.09	12.18	12.22	12.27	14.25	15.70	15.85	15.91	15.88	15.86	15.89
18/12/1999	14.23	14.18	14.16	14.05	14.29	14.22	14.33	14.67	15.85	16.47	16.48	16.42
30/01/2000	15.87	15.77	15.83	15.95	15.90	16.12	16.05	16.40	16.39	16.38	16.30	16.46
22/02/2000	14.79	14.76	14.79	14.88	14.97	15.06	15.33	15.60	15.65	15.82	15.82	15.85
01/08/2003	12.27	12.51	12.99	13.48	13.96	15.30	17.98	17.89	17.91	18.59	17.93	18.13
20/09/2003	13.58	13.51	13.37	13.06	13.84	14.61	16.16	17.53	17.50	17.47	17.21	16.56
15/12/2003	12.89	13.63	13.53	13.52	15.34	16.25	16.42	16.64	16.46	17.01	17.23	17.80
25/02/2004	16.51	16.37	16.08	16.29	16.55	16.46	16.71	16.88	17.04	15.90	16.12	16.68
31/03/2004	16.51	16.61	16.51	16.15	16.09	15.97	16.46	16.40	16.33	16.26	16.33	16.50
26/04/2004	13.45	13.61	13.94	14.27	14.60	14.72	15.04	15.56	16.32	16.93	16.72	17.37
01/06/2004	14.13	13.94	13.21	13.46	15.36	16.78	17.07	17.11	17.33	17.33	17.50	17.78
29/06/2004	14.20	13.51	14.02	14.52	15.91	16.52	17.06	17.18	17.01	17.15	17.13	17.16
27/07/2004	14.19	14.37	13.61	13.71	15.25	16.84	17.17	17.24	17.29	17.34	17.38	17.48
30/08/2004	13.54	13.26	14.08	15.38	16.94	17.19	17.27	17.13	17.24	17.24	16.98	17.18
27/10/2004	13.02	12.90	13.14	13.37	14.94	16.11	17.12	17.63	17.71	17.59	17.45	17.14
14/12/2004							14.14	16.79	16.96	17.14	17.32	17.28
09/06/2005	12.85	12.80	12.78	12.87	13.78	14.26	15.20	16.15	16.26	16.38	16.37	16.78
02/08/2005	13.42	13.12	12.96	13.88	15.36	16.50	16.51	16.62	16.72	16.83	16.84	17.30
25/10/2005	12.14	12.34	12.67	13.12	14.45	15.54	16.01	16.20	16.50	16.50	16.32	16.36
24/11/2005	13.50	13.60	13.69	13.78	14.10	14.60	16.24	16.26	16.50	16.39	16.49	16.74
19/12/2005	15.90	15.78	15.80	15.73	15.66	15.75	16.15	16.12	15.88	15.95	16.04	16.41

Supplementary Table 9: DYFAMED CO₃ data (mmol kg⁻¹) for the upper 200 m of the water column

Date	CO3 5	CO3 10	CO3 20	CO3 30	CO3 40	CO3 50	CO3 70	CO3 90	CO3 110	CO3 130	CO3 150	CO3 200
06/02/1998	212.42	213.61	211.55	211.27	211.51	211.74	209.70	209.04	206.34	201.50	196.65	196.41
16/03/1998	212.68	213.01	210.52	206.64	203.65	200.66	204.69	204.03	200.97	199.24	198.29	195.20
25/04/1998	219.42	219.36	216.22	211.37	194.67	191.71	190.50	190.67	188.52	188.99	189.52	190.85
06/05/1998	227.01	225.68	226.66	221.98	213.87	205.75	199.85	198.26	196.67	194.56	194.43	195.57
16/06/1998	231.63	232.52	230.97	227.80	217.47	202.72	198.51	196.08	193.56	193.06	193.08	193.52
19/08/1998	260.22	253.18	240.20	215.44	203.00	190.60	186.95	189.82	192.98	187.55	188.97	192.53
04/09/1998	256.81	246.20	229.95	215.14	197.38	191.34	193.35	191.02	189.42	190.34	191.43	194.00
10/10/1998	238.95	232.98	231.21	215.06	198.91	197.27	194.24	193.65	196.20	191.82	193.41	193.60
09/12/1998	220.25	219.51	219.20	207.08	194.97	191.93	194.51	197.09	199.67	195.02	193.02	188.01
26/01/1999	214.40	213.66	211.28	210.87	206.35	204.76	203.08	195.41	196.45	196.85	194.73	196.88
21/02/1999	203.24	202.84	202.02	203.31	200.40	201.51	201.61	201.01	199.50	198.84	197.81	196.97
19/03/1999	209.12	203.32	207.39	206.65	204.95	203.52	202.75	203.67	203.17	202.05	202.09	197.23
11/04/1999	219.40	219.02	217.49	215.59	213.08	205.93	201.53	198.50	197.88	197.26	196.95	197.88
15/05/1999	230.09	227.96	223.74	216.54	210.65	209.52	206.03	199.82	197.52	197.15	196.78	198.50
12/06/1999	238.59	238.53	234.02	229.50	226.67	206.18	199.16	195.70	194.22	193.39	193.08	192.76
10/07/1999	247.81	242.93	232.42	220.60	213.23	201.17	199.48	199.02	199.84	197.46	196.84	196.11
03/10/1999	257.06	255.19	235.93	222.00	206.77	196.37	191.63	191.39	191.82	192.49	193.15	194.72
28/10/1999	253.00	251.18	247.55	246.68	245.80	215.08	197.73	197.30	197.67	197.76	198.29	198.83
18/12/1999	210.90	211.51	211.67	212.66	210.50	210.77	209.71	206.94	197.31	192.89	193.34	194.35
30/01/2000	198.74	199.32	198.84	197.89	198.31	196.77	197.13	195.10	195.12	195.13	195.21	194.26
22/02/2000	206.42	206.83	206.46	205.54	204.79	204.04	202.05	200.06	199.73	198.19	198.08	197.55
01/08/2003	242.64	238.83	231.19	223.56	215.93	204.24	180.85	182.07	182.67	176.73	182.84	181.18
20/09/2003	244.84	243.95	242.16	236.56	226.01	215.47	194.37	183.85	185.09	186.32	188.27	193.16
15/12/2003	230.32	221.35	219.77	220.30	202.98	192.44	192.35	189.95	192.69	187.62	186.67	184.32
25/02/2004	192.44	193.45	195.47	193.18	190.71	191.71	190.16	188.12	186.07	195.98	193.85	188.54
31/03/2004	191.45	190.76	191.25	194.49	194.74	196.32	192.02	192.40	192.77	193.63	192.83	190.84
26/04/2004	219.93	218.31	215.07	211.82	208.58	208.06	205.23	200.33	193.83	188.78	191.50	185.82
01/06/2004	227.96	226.08	228.53	222.04	202.30	189.41	187.23	187.59	186.54	186.90	185.52	183.52
29/06/2004	235.46	231.95	222.74	213.53	198.80	193.00	189.02	188.83	190.69	190.20	189.86	190.65
27/07/2004	243.00	237.88	225.08	221.00	204.64	190.62	188.13	187.57	187.50	187.43	188.31	190.51
30/08/2004	241.28	241.66	218.43	203.61	190.23	188.25	187.94	189.29	188.55	188.82	191.06	189.74
27/10/2004	239.13	240.35	237.06	232.22	207.39	196.01	188.42	184.55	184.07	185.32	186.59	189.46
14/12/2004							215.32	188.71	187.67	186.64	185.60	186.79
09/06/2005	245.25	245.60	238.33	230.71	219.84	214.77	205.73	196.68	196.02	195.19	195.19	192.09
02/08/2005	249.66	245.88	233.36	219.97	203.84	193.78	193.37	192.51	191.65	190.80	191.36	187.73
25/10/2005	254.22	250.69	242.65	234.58	211.63	200.03	197.33	194.90	193.05	193.32	195.09	195.37
24/11/2005	223.69	222.64	221.63	220.55	216.09	208.34	194.29	194.49	192.91	194.09	193.51	192.07
19/12/2005	195.73	196.75	196.85	197.76	198.67	198.12	195.22	195.74	197.29	196.43	195.94	193.71

Supplementary Table 10: DYFAMED pH data (mmol kg⁻¹) for the upper 200 m of the water column

Date	pH 5	pH 10	pH 20	pH 30	pH 40	pH 50	pH 70	pH 90	pH 110	pH 130	pH 150	pH 200
06/02/1998	8.12	8.12	8.11	8.12	8.12	8.12	8.11	8.11	8.10	8.09	8.08	8.08
16/03/1998	8.12	8.12	8.11	8.11	8.10	8.09	8.10	8.10	8.08	8.07	8.06	8.06
25/04/1998	8.10	8.12	8.12	8.11	8.07	8.06	8.06	8.05	8.05	8.05	8.05	8.05
06/05/1998	8.13	8.13	8.14	8.14	8.12	8.10	8.08	8.08	8.07	8.06	8.06	8.06
16/06/1998	8.09	8.10	8.14	8.15	8.13	8.09	8.08	8.08	8.06	8.06	8.06	8.05
19/08/1998	8.02	8.04	8.15	8.11	8.09	8.06	8.05	8.05	8.06	8.04	8.05	8.05
04/09/1998	8.08	8.11	8.14	8.11	8.07	8.06	8.07	8.06	8.05	8.05	8.05	8.06
10/10/1998	8.11	8.10	8.10	8.09	8.08	8.08	8.07	8.07	8.07	8.06	8.06	8.06
09/12/1998	8.12	8.12	8.12	8.09	8.06	8.06	8.07	8.07	8.08	8.07	8.06	8.05
26/01/1999	8.13	8.12	8.12	8.12	8.11	8.10	8.10	8.06	8.07	8.06	8.06	8.06
21/02/1999	8.10	8.10	8.10	8.10	8.09	8.09	8.09	8.09	8.08	8.08	8.07	8.06
19/03/1999	8.11	8.10	8.11	8.10	8.10	8.10	8.09	8.10	8.09	8.09	8.09	8.08
11/04/1999	8.13	8.13	8.13	8.13	8.12	8.10	8.09	8.08	8.08	8.07	8.07	8.07
15/05/1999	8.08	8.09	8.13	8.12	8.11	8.10	8.10	8.08	8.07	8.07	8.07	8.07
12/06/1999	8.04	8.04	8.09	8.14	8.14	8.10	8.08	8.07	8.07	8.06	8.06	8.06
10/07/1999	8.03	8.04	8.13	8.13	8.12	8.09	8.08	8.08	8.08	8.07	8.07	8.06
03/10/1999	8.07	8.07	8.14	8.12	8.10	8.07	8.06	8.06	8.06	8.06	8.06	8.06
28/10/1999	8.10	8.10	8.11	8.12	8.12	8.10	8.08	8.08	8.07	8.07	8.07	8.07
18/12/1999	8.12	8.12	8.12	8.12	8.11	8.12	8.11	8.10	8.07	8.06	8.06	8.06
30/01/2000	8.08	8.08	8.08	8.08	8.08	8.07	8.07	8.06	8.06	8.06	8.06	8.06
22/02/2000	8.11	8.11	8.11	8.10	8.10	8.10	8.09	8.08	8.08	8.08	8.08	8.07
01/08/2003	8.12	8.12	8.12	8.11	8.11	8.09	8.03	8.03	8.03	8.01	8.03	8.02
20/09/2003	8.03	8.03	8.05	8.09	8.08	8.08	8.07	8.04	8.04	8.04	8.04	8.05
15/12/2003	8.12	8.10	8.11	8.11	8.07	8.06	8.06	8.05	8.05	8.04	8.04	8.03
25/02/2004	8.06	8.07	8.07	8.07	8.06	8.06	8.06	8.05	8.05	8.07	8.07	8.05
31/03/2004	8.06	8.06	8.06	8.07	8.07	8.08	8.06	8.06	8.06	8.07	8.06	8.06
26/04/2004	8.12	8.12	8.11	8.11	8.11	8.10	8.09	8.08	8.06	8.05	8.05	8.04
01/06/2004	8.06	8.08	8.12	8.12	8.08	8.05	8.05	8.05	8.04	8.04	8.04	8.03
29/06/2004	8.03	8.09	8.09	8.10	8.07	8.06	8.05	8.05	8.05	8.05	8.05	8.04
27/07/2004	8.01	8.01	8.11	8.12	8.09	8.05	8.05	8.05	8.04	8.04	8.04	8.04
30/08/2004	8.06	8.07	8.11	8.09	8.05	8.05	8.05	8.05	8.04	8.04	8.05	8.04
27/10/2004	8.09	8.10	8.09	8.09	8.09	8.07	8.05	8.04	8.03	8.04	8.04	8.04
14/12/2004							8.10	8.05	8.05	8.04	8.04	8.04
09/06/2005	8.10	8.10	8.13	8.15	8.13	8.12	8.09	8.07	8.07	8.06	8.06	8.05
02/08/2005	8.04	8.07	8.13	8.12	8.09	8.06	8.06	8.06	8.06	8.05	8.05	8.04
25/10/2005	8.11	8.10	8.10	8.10	8.09	8.08	8.07	8.07	8.06	8.06	8.06	8.06
24/11/2005	8.12	8.12	8.12	8.11	8.11	8.11	8.07	8.07	8.06	8.06	8.06	8.05
19/12/2005	8.08	8.08	8.08	8.08	8.08	8.08	8.07	8.07	8.08	8.07	8.07	8.06

Supplementary Table 11: DYFAMED Ω_{calcite} data (mmol kg^{-1}) for the upper 200 m of the water

column

Date	Ω_{Calcite} 5	Ω_{Calcite} 10	Ω_{Calcite} 20	Ω_{Calcite} 30	Ω_{Calcite} 40	Ω_{Calcite} 50	Ω_{Calcite} 70	Ω_{Calcite} 90	Ω_{Calcite} 110	Ω_{Calcite} 130	Ω_{Calcite} 150	Ω_{Calcite} 200
06/02/1998	4.95	4.97	4.92	4.90	4.90	4.89	4.83	4.80	4.72	4.59	4.46	4.42
16/03/1998	4.95	4.95	4.89	4.79	4.71	4.63	4.71	4.68	4.59	4.53	4.49	4.38
25/04/1998	5.11	5.11	5.03	4.90	4.50	4.43	4.38	4.37	4.30	4.30	4.29	4.29
06/05/1998	5.29	5.25	5.27	5.15	4.95	4.75	4.60	4.54	4.49	4.42	4.41	4.39
16/06/1998	5.40	5.42	5.37	5.28	5.03	4.68	4.57	4.50	4.42	4.39	4.38	4.35
19/08/1998	6.09	5.91	5.58	4.99	4.70	4.40	4.30	4.35	4.40	4.27	4.28	4.32
04/09/1998	5.99	5.73	5.34	4.99	4.57	4.42	4.45	4.38	4.32	4.33	4.34	4.36
10/10/1998	5.57	5.42	5.37	4.99	4.60	4.56	4.47	4.44	4.48	4.36	4.38	4.35
09/12/1998	5.13	5.11	5.09	4.80	4.51	4.43	4.48	4.52	4.56	4.44	4.38	4.22
26/01/1999	4.99	4.97	4.91	4.89	4.78	4.73	4.67	4.48	4.48	4.47	4.41	4.42
21/02/1999	4.73	4.72	4.69	4.71	4.63	4.65	4.64	4.60	4.55	4.52	4.48	4.42
19/03/1999	4.86	4.72	4.81	4.78	4.74	4.69	4.66	4.66	4.64	4.60	4.58	4.43
11/04/1999	5.11	5.09	5.05	4.99	4.93	4.75	4.63	4.55	4.52	4.49	4.46	4.44
15/05/1999	5.35	5.30	5.19	5.02	4.87	4.83	4.74	4.58	4.51	4.48	4.46	4.46
12/06/1999	5.56	5.55	5.43	5.31	5.24	4.76	4.58	4.48	4.43	4.40	4.37	4.33
10/07/1999	5.78	5.66	5.40	5.11	4.93	4.65	4.59	4.56	4.56	4.49	4.46	4.40
03/10/1999	5.99	5.95	5.48	5.14	4.78	4.53	4.40	4.38	4.38	4.38	4.37	4.37
28/10/1999	5.90	5.85	5.76	5.72	5.69	4.97	4.55	4.52	4.51	4.50	4.49	4.46
18/12/1999	4.91	4.92	4.91	4.93	4.87	4.87	4.83	4.75	4.51	4.39	4.38	4.36
30/01/2000	4.62	4.63	4.61	4.58	4.58	4.54	4.53	4.47	4.45	4.43	4.42	4.36
22/02/2000	4.80	4.81	4.79	4.76	4.73	4.71	4.65	4.58	4.56	4.51	4.49	4.44
01/08/2003	5.65	5.56	5.37	5.18	5.00	4.72	4.16	4.17	4.17	4.02	4.14	4.07
20/09/2003	5.71	5.69	5.63	5.49	5.24	4.98	4.47	4.21	4.23	4.24	4.27	4.34
15/12/2003	5.37	5.16	5.11	5.12	4.70	4.45	4.43	4.36	4.40	4.27	4.23	4.14
25/02/2004	4.47	4.49	4.54	4.47	4.41	4.42	4.37	4.31	4.25	4.46	4.40	4.24
31/03/2004	4.45	4.43	4.44	4.50	4.50	4.53	4.41	4.41	4.40	4.40	4.37	4.29
26/04/2004	5.12	5.08	4.99	4.91	4.82	4.80	4.72	4.59	4.42	4.29	4.34	4.17
01/06/2004	5.30	5.26	5.30	5.14	4.68	4.37	4.30	4.30	4.26	4.25	4.20	4.12
29/06/2004	5.49	5.40	5.17	4.95	4.60	4.45	4.35	4.32	4.35	4.32	4.30	4.28
27/07/2004	5.67	5.54	5.22	5.12	4.73	4.40	4.32	4.30	4.28	4.26	4.26	4.27
30/08/2004	5.62	5.62	5.07	4.71	4.40	4.34	4.32	4.33	4.30	4.29	4.33	4.26
27/10/2004	5.56	5.59	5.50	5.38	4.79	4.52	4.33	4.23	4.20	4.21	4.23	4.25
14/12/2004							4.96	4.33	4.29	4.25	4.21	4.20
09/06/2005	5.70	5.71	5.53	5.34	5.08	4.95	4.73	4.50	4.47	4.44	4.42	4.31
02/08/2005	5.82	5.72	5.41	5.09	4.71	4.47	4.44	4.41	4.37	4.34	4.34	4.21
25/10/2005	5.92	5.83	5.63	5.44	4.90	4.62	4.54	4.47	4.41	4.40	4.42	4.39
24/11/2005	5.20	5.17	5.14	5.11	5.00	4.81	4.47	4.46	4.40	4.41	4.38	4.31
19/12/2005	4.55	4.57	4.57	4.58	4.59	4.57	4.49	4.48	4.50	4.47	4.44	4.35

Supplementary Table 12: Calculated CO₂ and CO₃ (mmol kg⁻¹) averaged for the upper 50 m of the water column

Month	Average CO ₃ 0-50	Average CO ₂ 0-50
Nov-93	217.2	12.383
Dec-93	210.4	12.905
Jan-94	195.4	14.027
Feb-94	197.7	14.037
Mar-94	197.5	14.046
Apr-94	199.7	13.873
Jul-94	217.8	12.811
Aug-94	223.7	12.557
Sep-94	223.6	12.387
Oct-94	222.7	12.383
Nov-94	211.7	12.950
Jan-95	195.6	14.147
Feb-95	197.4	14.048
Mar-95	196.2	14.152
Apr-95	199.0	13.971
Jun-95	212.7	13.201
Jul-95	220.1	12.804
Sep-95	221.3	12.688
Oct-95	220.9	12.655
Nov-95	216.5	12.715
Jan-96	198.0	13.843
Apr-96	196.3	14.159
May-96	205.7	13.483
Jun-96	217.6	12.856
Jul-96	213.0	13.054
Aug-96	227.8	12.317
Sep-96	221.7	12.499
Dec-96	198.5	13.916
Jan-97	195.2	14.214
Feb-97	195.7	14.127
Mar-97	198.7	14.018
Apr-97	202.2	13.822
May-97	205.2	13.535
Jun-97	218.7	12.706
Jul-97	223.4	12.487
Sep-97	227.8	12.324
Nov-97	209.0	13.137
Dec-97	208.8	13.108
Feb-98	197.1	14.010
Mar-98	196.6	14.210
Apr-98	199.0	13.940
May-98	200.7	13.834
Jun-98	207.5	13.420
Jul-98	223.0	12.734
Aug-98	225.0	12.609
Sep-98	219.7	12.806
Oct-98	212.9	13.064
Dec-98	200.9	13.813
Jan-99	196.0	14.214
Feb-99	194.3	14.369
Mar-99	196.1	14.377
Apr-99	196.1	14.284
May-99	205.5	13.701

Month	Average CO3 0-50	Average CO2 0-50
Jun-99	217.2	13.067
Jul-99	221.7	12.846
Aug-99	234.2	12.169
Sep-99	232.3	12.196
Oct-99	225.7	12.270
Dec-99	196.0	14.222
Jan-00	197.2	14.318
Feb-00	195.0	14.414
Mar-00	196.3	14.360
Apr-00	195.8	14.388
May-00	210.2	13.412
Jun-00	215.2	13.203
Jul-00	213.8	13.243
Sep-00	217.9	13.018
Oct-00	220.1	12.683
Dec-00	202.3	13.747
Jan-01	195.5	14.265
Feb-01	193.5	14.430
Mar-01	196.2	14.286
Apr-01	197.6	14.138
May-01	209.3	13.476
Jun-01	217.8	13.042
Jul-01	216.3	13.171
Aug-01	226.0	12.653
Sep-01	214.7	13.103
Oct-01	215.5	13.035
Nov-01	208.3	13.316
Dec-01	202.5	13.742
Jan-02	193.5	14.520
Feb-02	192.2	14.518
Mar-02	193.3	14.377
Apr-02	193.8	14.424
May-02	201.6	13.817
Jun-02	213.4	13.215
Jul-02	220.0	12.826
Aug-02	215.9	13.159
Sep-02	222.4	12.679
Dec-02	202.6	13.636
Feb-03	190.8	14.714
Mar-03	190.7	14.648
Apr-03	191.6	14.690
May-03	202.2	13.844
Jun-03	216.3	13.173
Jul-03	213.4	13.277
Aug-03	223.9	12.701
Sep-03	231.5	12.269
Oct-03	220.5	12.678
Nov-03	203.2	13.618
Dec-03	202.4	13.718
Feb-04	193.8	14.631
Mar-04	192.9	14.707
Apr-04	197.1	14.343
Jun-04	207.9	13.685
Jul-04	218.0	13.187
Aug-04	210.9	13.522
Sep-04	225.5	12.593
Oct-04	214.5	13.152

Month	Average CO3 0-50	Average CO2 0-50
Nov-04	207.5	13.831
Dec-04	200.8	13.963
Jun-05	207.4	13.812
Jul-05	210.6	13.640
Aug-05	214.3	13.396
Oct-05	217.3	13.017
Nov-05	199.5	14.173
Dec-05	191.8	14.791