

Appendix 1 : Location, maximum abundance recorded and timing of *Phaeocystis*. P = *P. pouchetii*, G = *P. globosa*, A = *P. antarctica*, sp. = *P. sp.*, Col = colonies, SC = single cells, NS = Not specified. Latitudes and longitudes are expressed in degrees. Negative values are given to Western longitudes and to Southern latitudes and positive values to Eastern longitudes and Northern latitudes.

Location		Pres. Prob.		When	Type	Cells/l	References
Lat	Long	as	was				
Arctic and mid-North							
79,0	11,8	P	P	Late May 1986	NS	1,2E+07	Eilertsen et al. 1989
78,0	-167,0	sp.	P	Summer	SC	1,8E+07	Sherr et al. 2003
77,4	33,1	P	P	Jul 1991	C	>1E+07	Luchetta et al. 2000
77,0	15,6	P	P	Late May 1985	NS	7,2E+06	Eilertsen et al. 1989
76,1	33,3	P	P	Late Jul 1989	C	1,3E+05	Hansen et al. 1990b
76,0	28,4	P	P	Late Jul 1988	C	1,3E+05	Hansen et al. 1990b
75,8	34,8	P	P	Mid Jul 1988	C	2,2E+05	Hansen et al. 1990b
75,0	28,6	P	P	May 1987	C	8,0E+06	Wassmann et al. 1990
69,4	19,1	P	P	Late Apr 1978	C	1,1E+07	Eilertsen et al. 1981
61,1	-50,4	P	P	Early Jun 1997	C	1,0E+06	Wolfe et al. 2000
58,2	9,5	sp.	sp.	Apr 1993	C	3,1E+05	Karlson et al. 1996
57,8	10,7	sp.	sp.	Apr 1994	C	7,2E+05	Karlson et al. 1996
57,7	10,0	sp.	sp.	Apr 1995	C	9,8E+05	Karlson et al. 1996
57,4	-56,2	P	P	Late May 1997	C	1,1E+07	Wolfe et al. 2000
57,4	8,5	sp.	sp.	Apr 1993	C	1,9E+06	Karlson et al. 1996
57,3	-163,5	P	sp.	Spring 1981	NS	6,5E+05	Barnard et al. 1984
57,2	8,6	sp.	sp.	May 1993	C	3,0E+06	Karlson et al. 1996
55,9	-166,1	P	P	Apr 1980	NS	4,9E+09	Napp et al. 2002
55,4	-166,7	P	sp.	Spring 1981	NS	1,4E+06	Barnard et al. 1984
55,0	-163,8	P	P	Jun		3,3E+06	Stockwell et al. 2001
54,7	-3,6	P	sp.	May 1996	NS	ca. 1E+05	Kennington et al. 1999
54,6	-167,7	P	sp.	Spring 1981	NS	8,0E+05	Barnard et al. 1984
54,2	8,3	sp.	sp.	Early Jun 1988	C	5,4E+07	Jenkinson and Biddanda 1995
54,2	8,4	cf. G	G	Early May 1989	C	ca. 1,5E+06	Riebesell 1993
54,2	7,9	cf. G	G	Early May 1991	C	ca. 3,7E+06	Riebesell 1993
54,1	7,8	sp.	sp.	Early Jun 1988	C	2,8E+07	Jenkinson and Biddanda 1995
54,1	7,7	sp.	sp.	Early Jun 1988	C	3,1E+07	Jenkinson and Biddanda 1995
54,1	4,4	sp.	sp.	Late Apr 1998	C	1,3E+06	Archer et al. 2003
53,6	-3,9	sp.	sp.	Early Jun 1988	C	3,0E+07	Claustre et al. 1990
53,5	5,1	sp.	sp.	Mid Apr 1988	C	3,7E+07	Lancelot et al. 1989
53,4	5,2	sp.	sp.	Mid Apr 1989	C	4,4E+07	Lancelot et al. 1989
53,4	-4,1	sp.	sp.	Early Jun 1970	C	ca. 1E+08	Morris 1971
53,2	-4,1	sp.	sp.	Late May 1994	C	ca. 5E+06	Blight et al. 1995
53,1	4,3	sp.	sp.	Early Apr 1998	C	3,5E+07	Archer et al. 2003
53,1	4,5	sp.	G	Mid Apr 1993	C	1,0E+07	Stefels et al. 1995
53,0	5,0	P	G	May 1985	C	1,9E+08	Cadée and Hegeman 1986
53,0	5,0	G	G	Early Apr 1993	C	1,8E+08	Cadée 1996
53,0	5,0	P	G	Early May 1978	C	ca. 1E+08	Pieters et al. 1980
53,0	4,7	sp.	G	Mid Apr 1993	C	2,7E+07	Stefels et al. 1995
53,0	4,7	sp.	G	Mid Apr 1994	C	8,0E+06	Stefels et al. 1995
53,0	4,7	sp.	G	Mid Apr 1995	C	1,5E+07	Stefels et al. 1995
52,9	3,3	P	G	Early Jun 1984	C	7,0E+06	Veldhuis et al. 1986
52,4	4,2	P	G	Early May 1984	C	1,6E+07	Veldhuis et al. 1986
52,3	4,2	sp.	sp.	Late Apr 1988	C	1,1E+07	Lancelot et al. 1989
52,3	4,3	G	G	Late Apr 1992	C	5,0E+07	Peperzak et al. 2000
52,3	3,6	sp.	G	Mid Apr 1993	C	4,1E+06	Stefels et al. 1995
52,3	4,4	sp.	sp.	Mid Apr 1988	C	3,8E+07	Lancelot et al. 1989
52,3	3,6	P	G	Early May 1984	C	9,0E+06	Veldhuis et al. 1986
52,2	3,8	sp.	G	Mid Apr 1993	C	2,9E+06	Stefels et al. 1995
52,2	4,2	sp.	G	Mid Apr 1993	C	6,3E+04	Stefels et al. 1995
52,2	4,4	sp.	G	Mid Apr 1993	C	2,4E+05	Stefels et al. 1995

52,2	4,2	sp.	G	Mid Apr 1993	C	1,2E+05	Stefels et al. 1995
52,1	3,8	P	G	Mid May 1984	C	2,2E+07	Veldhuis et al. 1986
52,0	2,7	sp.	sp.	May 1991	C	1,3E+07	Althuis et al. 1994
51,9	3,0	sp.	G	Mid Apr 1993	C	5,9E+05	Stefels et al. 1995
51,8	3,4	sp.	sp.	Mid May 1988	C	2,0E+07	Lancelot et al. 1989
51,7	3,5	sp.	sp.	Mid May 1988	C	9,9E+06	Lancelot et al. 1989
51,6	3,7	sp.	sp.	Late May 1984	C	7,0E+07	Bakker et al. 1994
51,5	4,2	sp.	sp.	Late May 1985	C	3,6E+06	Bakker et al. 1994
51,5	4,2	P	G	Late May 1984	C	1,5E+07	Laanbroek et al. 1985
51,5	2,5	sp.	G	Early May 1988	C	2,1E+07	Lancelot et al. 1989
51,4	2,8	sp.	G	Early May 1988	C	4,5E+07	Lancelot et al. 1989
51,4	2,8	G	G	Early May 1993	C	6,0E+07	Schoemann unpubl. data
50,3	-4,2	sp.	sp.	Early May 1988	C	2,4E+06	Lancelot et al. 1989
50,2	1,5	sp.	sp.	Late Apr 1996	NS	ca. 1E+07	Breton et al. 1999
50,1	-4,4	sp.	sp.	Early May 1990	C	9,0E+06	Bautista et al. 1994
43,6	-8,6	P	sp.	Late Mar 1993	NS	<2E+03	Bode and Varela 1984
43,5	-8,8	P	sp.	Late Mar 1994	NS	<2E+03	Bode and Varela 1984
42,4	-70,9	P	sp.	Apr 1992	C	ca. 6E+06	Turner 1994
40,6	-73,3	P	sp.	Mid Apr 1977	C	1,8E+06	Weaver 1979
38,5	23,5	P	sp.	Sept 1999	C	2,7E+06	Metaxatos et al. 2003

Tropical waters

23,2	117,2	P	G	Early Dec 1997	C	2,5E+08	Huang et al. 1999
22,8	-158,0	cf. P	G	Aug 1994	C	2,3E+05	Venrick 1997
19,1	67,3	sp.	G	late Aug to mid Sept	C	7,3E+05	Brown and Bowman 2001
18,1	58,0	sp.	G	late Aug to mid Sept	C	8,1E+04	Brown and Bowman 2001
17,1	59,7	sp.	G	late Aug to mid Sept	C	8,1E+04	Brown and Bowman 2001
17,0	64,0	G	G	Jul-Aug 1996	C	3,4E+07	Madhupratap et al. 2000
16,0	62,0	sp.	G	Late Aug - mid Sept	C	1,1E+06	Brown and Bowman 2001
15,0	64,0	G	G	Jul-Aug 1996	C	6,4E+07	Madhupratap et al. 2000
15,0	65,0	sp.	G	Late Dec-Early Jan	C	1,2E+02	Takeda et al. 1995
14,5	65,0	sp.	G	Late Aug to mid Sept	C	2,5E+05	Brown and Bowman 2001
14,4	65,0	sp.	G	Early Sept 1995	C	ca. 5E+06	Garrison et al. 1998
10,0	65,0	sp.	G	Late Aug to mid Sept	C	2,6E+05	Brown and Bowman 2001

Antarctica and mid-South

-36,4	-54,8	sp.	sp.	Early Nov 1999	SC	1,0E+04	Caretto et al. 2003
-38,7	-55,7	sp.	sp.	Early Nov 2000	SC	1,2E+03	Caretto et al. 2003
-59,6	-40,1	sp.	sp.	Late Nov-Early Dec	C	3,8E+05	Fryxell and Kendrick 1988
-60,0	-40,0	sp.	sp.	Late Nov-Early Dec	C	3,8E+05	Fryxell and Kendrick 1988
-60,3	-40,0	sp.	sp.	Late Nov-Early Dec	C	3,8E+05	Fryxell and Kendrick 1988
-60,4	-40,0	sp.	sp.	Late Nov-Early Dec	C	3,8E+05	Fryxell and Kendrick 1988
-61,1	-39,4	sp.	sp.	Late Nov-Early Dec	C	2,5E+05	Fryxell and Kendrick 1988
-61,4	-39,6	sp.	sp.	Late Nov-Early Dec	C	2,5E+05	Fryxell and Kendrick 1988
-61,5	-49,0	P	sp.	Late Dec 1988	NS	ca. 1E+05	Tréguer et al. 1991
-61,9	-39,2	sp.	sp.	Late Nov-Early Dec	C	2,5E+05	Fryxell and Kendrick 1988
-62,1	-39,1	sp.	sp.	Late Nov-Early Dec	C	1,0E+05	Fryxell and Kendrick 1988
-62,5	-38,9	sp.	sp.	Late Nov-Early Dec	C	1,0E+05	Fryxell and Kendrick 1988
-62,8	-38,9	sp.	sp.	Late Nov-Early Dec	C	1,0E+05	Fryxell and Kendrick 1988
-63,2	-64,7	A	A	Dec 1995 - Jan 1996	C	3,6E+06	Bode et al. 2002
-63,3	-53,1	A	A	Early Jan 1995	C	ca. 1E+07	Kang et al. 2001
-63,5	-54,0	A	A	Early Jan 1995	C	ca. 1E+07	Kang et al. 2001
-63,5	-61,0	A	A	Dec 1995	C	4,7E+05	Varela et al. 2002
-64,1	-169,1	sp.	sp.	Mid Dec 1997 1997	C	ca. 9E+06	Selph et al. 2001
-64,3	-71,5	sp.	sp.	Late Oct 1990	C	2,8E+06	Karentz and Spero 1995
-64,7	-62,9	A	A	Dec 1995 - Jan. 1997	C	1,5E+06	Bode et al. 2002
-64,8	-48,2	sp.	sp.	Late Mar 1986	C	4,4E+05	Kang and Fryxell 1993
-64,8	-63,4	A	A	Dec 1995	C	1,3E+06	Varela et al. 2002

-65,1	-49,3	sp.	sp.	Late Mar 1986	C	1,6E+05	Kang and Fryxell 1993
-65,7	-48,2	sp.	sp.	Late Mar 1986	C	1,3E+05	Kang and Fryxell 1993
-67,0	71,1	sp.	sp.	Late Jan-Early Feb	NS	2,0E+06	Kopczynska et al. 1995
-68,4	77,8	P	sp.	Early Jan 1988	C	3,0E+06	Gibson et al. 1990
-68,5	77,8	P	A	Early Jan 1989	C	6,0E+07	Davidson and Marchant 1992a
-68,6	78,0	A	A	Early Jan 1992	NS	3,1E+05	Scott et al. 2000
-68,6	78,0	sp.	A	Late Dec 1993	NS	4,0E+06	Robinson et al. 1999
-72,8	-37,5	sp.	sp.	Early Feb 1985	NS	ca. 4E+06	Estrada and Delgado 1990
-73,9	-34,3	sp.	sp.	Early Feb 1985	NS	ca. 1,5E+06	Estrada and Delgado 1990
-73,9	173,0	A	A	Late Nov 1994	C	8,5E+05	Mathot et al. 2000
-74,4	165,4	sp.	A	Late Oct 1993	NS	1,5E+04	Moro et al. 2000
-74,4	173,1	A	A	Late Nov 1994	C	9,5E+05	Mathot et al. 2000
-75,8	173,0	A	A	Late Nov 1994	C	9,2E+06	Mathot et al. 2000
-76,1	-174,0	A	A	Late Dec 1996	NS	3,0E+07	DiTullio et al. 2000
-76,3	173,0	A	A	Late Nov 1994	C	1,6E+07	Mathot et al. 2000
-76,3	177,7	A	A	Early Dec 1994	C	2,5E+07	Mathot et al. 2000
-76,4	180,0	A	A	Mid Nov 1994	C	1,8E+06	Mathot et al. 2000
-76,5	173,0	A	A	Late Nov 1994	C	1,4E+07	Mathot et al. 2000
-76,5	-177,7	A	A	Early Dec 1994	C	1,6E+07	Mathot et al. 2000
-76,5	180,0	A	A	Early Dec 1994	C	3,1E+07	Mathot et al. 2000
-76,5	170,8	A	A	Early Dec 1994	C	2,8E+07	Mathot et al. 2000
-76,5	-171,9	A	A	Late Dec 1995	C	2,2E+06	Mathot et al. 2000
-76,5	178,8	A	A	Late Dec 1995	C	1,9E+06	Mathot et al. 2000
-76,5	177,7	A	A	Late Dec 1995	C	2,0E+05	Mathot et al. 2000
-76,5	175,4	A	A	Late Dec 1995	C	1,4E+06	Mathot et al. 2000
-76,5	177,7	A	A	Late Dec 1995	C	7,3E+06	Mathot et al. 2000
-76,5	170,7	A	A	Late Dec 1995	C	2,2E+06	Mathot et al. 2000
-76,5	167,3	A	A	Late Dec 1995	C	5,5E+05	Mathot et al. 2000
-76,6	173,0	A	A	Early Dec 1994	C	2,4E+07	Mathot et al. 2000
-76,7	175,2	A	A	Mid Nov-Mid Dec	C	3,4E+06	Saggiomo et al. 1998
-76,8	173,0	A	A	Late Nov 1994	C	1,2E+07	Mathot et al. 2000
-77,1	173,0	A	A	Late Nov 1994	C	9,1E+06	Mathot et al. 2000
-77,1	173,9	A	A	Late Nov 1994	C	1,5E+07	Mathot et al. 2000
-77,1	166,1	P	A	Late Dec 1984	C	1,3E+07	Palmisano et al. 1986
-77,1	166,1	P	A	Late Dec 1985	C	2,1E+07	Palmisano et al. 1986
-77,2	166,2	P	A	Late Dec 1986	C	1,4E+07	Palmisano et al. 1986
-77,2	166,2	P	A	Late Dec 1987	C	2,8E+07	Palmisano et al. 1986
-77,2	166,3	P	A	Late Dec 1988	C	2,3E+07	Palmisano et al. 1986
-77,2	166,3	P	A	Late Dec 1989	C	2,8E+07	Palmisano et al. 1986
-77,3	-166,0	sp.	sp.	Early Jan 1991	C	ca.8E+06	Stoecker et al. 1995
-77,3	166,5	P	A	Late Dec 1990	C	1,5E+07	Palmisano et al. 1986
-77,3	166,5	P	A	Late Dec 1991	C	2,1E+07	Palmisano et al. 1986
-77,4	166,6	P	A	Late Dec 1992	C	4,8E+06	Palmisano et al. 1986
-77,4	166,6	P	A	Late Dec 1993	C	8,9E+06	Palmisano et al. 1986

References

- Althuis, I.J.A., Gieskes, W.W.C., Villerius, L., Colijn, F., 1994. Interpretation of fluorimetric chlorophyll registrations with algal pigment analysis along a ferry transect in the southern North Sea. *Neth. J. Sea Res.* 33, 37-46.
- Archer, S.D., Stelfox-Widdicombe, C.E., Malin, G., Burkill, P.H., 2003. Is dimethyl sulphide production related to microzooplankton herbivory in the southern North Sea? *J. Plank. Res.* 25, 235-242.

- Bakker, C., Herman, P.M.J., Vink, M., 1994. A new trend in the development of phytoplankton in the Oosterschelde (SW Netherlands) during and after the construction of a storm-surge barrier. *Hydrobiologia* 282/283, 79-100.
- Barnard, W.R., Andreae, M.O., Iverson, R.L., 1984. Dimethylsulfide and *Phaeocystis pouchetii* in the southeastern Bering Sea. *Cont. Shelf Res.* 3, 103-113.
- Bautista, B., Harris, R.P., Rodriguez, V., Guerrero, F., 1994. Temporal variability in copepod fecundity during two different spring bloom periods in coastal waters off Plymouth (SW England). *J. Plank. Res.* 16, 1367-1377.
- Blight, S.P., Bentley, T.L., Lefevre, D., Robinson, C., Rodrigues, R., Rowlands, J., le B. Williams, P.J., 1995. Phasing of autotrophic and heterotrophic plankton metabolism in a temperate coastal ecosystem. *Mar. Ecol. Prog. Ser.* 128, 61-75.
- Bode, A., Castro, C.G., Doval, M.D., Varela, M., 2002. New and regenerated production and ammonium regeneration in the western Bransfield Strait region (Antarctica) during phytoplankton bloom conditions in summer. *Deep-Sea Res. II.* 49, 787-804.
- Bode, A., Varela, M., 1984. Mesoscale estimations of primary production in shelf waters: a case study in the Golfo Artabro (NW Spain). *J. Exp. Mar. Biol. Ecol.* 229, 111-131.
- Breton, E., Sautour, B., Brylinski, J.-M., 1999. No feeding on *Phaeocystis* sp. as solitary cells (post-bloom period) by the copepod *Temora longicornis* in the coastal waters of the English Channel. *Hydrobiol.* 414, 13-23.
- Brown, M.V., Bowman, J.P., 2001. A molecular phylogenetic survey of sea-ice microbial communities (SIMCO). *FEMS Microb. Ecol.* 35, 267-275.
- Cadée, G.C., Hegeman, J., 1986. Seasonal and annual variation in *Phaeocystis pouchetii* (Haptophyceae) in the Westernmost inlet of the Wadden Sea during the 1973 to 1985 period. *Neth. J. Sea Res.* 20, 29-36.
- Cadée, G.C., 1996. Accumulation and sedimentation of *Phaeocystis globosa* in the Dutch Wadden Sea. *J. Sea Res.* 36, 321-327.
- Caretto, J.I., Montoya, N.G., Benavides, H.R., Guerrero, R., Carignan, M.O., 2003. Characterization of spring phytoplankton communities in the Rio de La Plata maritime front using pigment signatures and cell microscopy. *Mar. Biol.* 143, 1013-1027.
- Claustre, H., Poulet, S.A., Williams, R., Marty, J.-C., Coombs, S., Ben Mlih, F., Hapette, A.M., Martin-Jezequel, V., 1990. A biochemical investigation of a *Phaeocystis* sp. bloom in the Irish Sea. *J. Mar. Biol. Ass. U.K.* 70, 197-207.
- Davidson, A.T., Marchant, H.J., 1992a. Protist abundance and carbon concentration during a *Phaeocystis*-dominated bloom at an Antarctic coastal site. *Polar Biol.* 12, 387-395.
- DiTullio, G.R., Grebmeier, J.M., Arrigo, K.R., Lizotte, M.P., Robinson, D.H., Leventer, A., Barry, J.P., VanWoert, M.L., Dunbar, R.B., 2000. Rapid and early export of *Phaeocystis antarctica* blooms in the Ross Sea, Antarctica. *Nature* 404, 595-598.
- Eilertsen, H.C., Schei, B., Taasen, J.P., 1981. Investigations on the plankton community of Balsfjorden, northern Norway. The phytoplankton 1976-1978. Abundance, species composition, and succession. *Sarsia* 66, 129-141.
- Eilertsen, H.C., Taasen, J.P., Weslawski, J.M., 1989. Phytoplankton studies in the fjords of West Spitzbergen: physical environment and production in spring and summer. *J. Plank. Res.* 11, 1245-1260.
- Estrada, M., Delgado, M., 1990. Summer phytoplankton distributions in the Weddell Sea. *Polar Biol.* 10, 441-449.

- Fryxell, G.A., Kendrick, G.A., 1988. Austral spring microalgae across the Weddell Sea ice edge: spatial relationships found along a northward transect during AMERIEZ 83. *Deep-Sea Res.* 35, 1-20.
- Garrison, D.L., Gowing, M.M., Hughes, M.P., 1998. Nano- and microplankton in the northern Arabian Sea during the Southwest Monsoon, August-September 1995: a US-JGOFS study. *Deep-Sea Res. II* 45, 2269-2299.
- Gibson, J.A.E., Garrick, R.C., Burton, H.R., McTaggart, A.R., 1990. Dimethylsulfide and the alga *Phaeocystis pouchetii* in antarctic coastal waters. *Mar. Biol.* 104, 339-346.
- Hansen, B., Berggreen, U.C., Tande, K.S., Eilertsen, H.C., 1990b. Post-bloom grazing by *Calanus glacialis*, *C. finmarchicus* and *C. hyperboreus* in the region of the Polar Front, Barents Sea. *Mar. Biol.* 104, 5-14.
- Huang, C.-J., Dong, Q.-X., Zheng, L., 1999. Taxonomic and ecological studies on a large scale *Phaeocystis pouchetii* bloom in the southeast coast of China during late 1997. *Oceanol. Limnol. Sin.* 30, 581-592.
- Jenkinson, I.R., Biddanda, B.A., 1995. Bulk-phase viscoelastic properties of seawater: relationship with plankton components. *J. Plank. Res.* 17, 2251-2274.
- Kang, S.-H., Fryxell, G.A., 1993. Phytoplankton in the Weddell Sea, Antarctica: Composition, abundance and distribution in water-column assemblages of the marginal ice-edge zone during austral autumn. *Mar. Biol.* 116, 335-348.
- Kang, S.-H., Kang, J.-S., Lee, S., H., C.K., Kim, D., Park, M.G., 2001. Antarctic phytoplankton assemblage in the marginal ice zone of the northwestern Weddell Sea. *J. Plank. Res.* 23, 333-352.
- Karentz, D., Spero, H.J., 1995. Response of natural *Phaeocystis* population to ambient fluctuations of UVB radiation caused by Antarctic ozone depletion. *J. Plank. Res.* 17, 1771-1789.
- Karlson, B., Edler, L., Granéli, W., Sahlsten, E., Kuylenstierna, M., 1996. Subsurface chlorophyll maxima in the Skagerrak-processes and plankton community structure. *J. Sea Res.* 35, 139-158.
- Kennington, K., Allen, J.R., Wither, A., Shammon, T.M., Hartnoll, R.G., 1999. Phytoplankton and nutrient dynamics in the north-east Irish Sea. *Hydrobiol.* 393, 57-67.
- Kopczynska, E.E., Goeyens, L., Semeneh, M., Dehairs, F., 1995. Phytoplankton composition and cell carbon distribution in Prydz Bay, Antarctica: relation to organic particulate matter and its $\delta^{13}\text{C}$ values. *J. Plank. Res.* 17, 685-707.
- Laanbroek, H.J., Verplanke, J.C., Visscher, P.R.M., de Vuyst, R., 1985. Distribution of phyto- and bacterioplankton growth and biomass parameters, dissolved inorganic nutrients and free amino acids during a spring bloom in the Oosterschelde basin, The Netherlands. *Mar. Ecol. Prog. Ser.* 25, 1-11.
- Lancelot, C., Billen, B., Rousseau, V., 1989. Joint EEC Project on the dynamics of *Phaeocystis* blooms in nutrient enriched coastal zones. 1st annual progress report, Université Libre de Bruxelles, Belgium, unpublished.
- Luchetta, A., Lipizer, M., Socal, G., 2000. Temporal evolution of primary production in the central Barents Sea. *J. Mar. Syst.* 27, 177-193.
- Madhupratap, M., Sawant, S., Gauns, M., 2000. A first report on a bloom of the marine prymnesiophycean, *Phaeocystis globosa* from the Arabian Sea. *Oceanol. Acta.* 23, 83-90.
- Mathot, S., Smith Jr, W.O., Carlson, C.A., Garrison, D.L., Gowing, M.M., Vickers, C.L., 2000. Carbon partitioning within *Phaeocystis antarctica* (prymnesiophyceae) colonies in the Ross Sea, Antarctica. *J. Phycol.* 36, 1049-1056.

- Metaxatos, A., Panagiotopoulos, C., Ignatiades, L.U., 2003. Monosaccharide and aminoacid composition of mucilage material produced from a mixture of four phytoplanktonic taxa. *J. Exp. Mar. Biol. Ecol.* 294, 203-217.
- Moro, I., Paccagnella, R., Barbante, C., Andreoli, C., 2000. Microalgal communities of the sea-ice, ice-covered and ice-free waters of Wood Bay (Ross Sea, Antarctica) during the Austral summer 1993-94. *Mar. Ecol.* 21, 233-245.
- Morris, A.W., 1971. Trace metal variations in seawater of the Menai Straits caused by a bloom of *Phaeocystis*. *Nature* 233, 427-428.
- Napp, J.M., Baier, C.T., Brodeur, R.D., Coyle, K.O., Shiga, N., Mier, K., 2002. Interannual and decadal variability in zooplankton communities of the southeast Bering Sea shelf. *Deep-Sea Res. II* 49, 5991-6008.
- Palmisano, A.C., SooHoo, J.B., SooHoo, S.L., Kottmeier, S.T., Craft, L.L., Sullivan, C.W., 1986. Photoadaptation in *Phaeocystis pouchetii* advected beneath annual sea ice McMurdo Sound, Antarctica. *J. Plank. Res.* 8, 891-906.
- Peperzak, L., Colijn, F., Peeters, J.C.H., 2000. Observations of flagellates in colonies of *Phaeocystis globosa* (Prymnesiophyceae); a hypothesis for their position in the life cycle. *J. Plank. Res.* 22, 2181-2203.
- Pieters, H., Kluytmans, J.H., Zandee, D.I., Cadée, G.C., 1980. Tissue composition and reproduction of *Mytilus edulis* in relation to food availability. *Neth. J. Sea Res.* 14, 349-361.
- Riebesell, U., 1993. Aggregation of *Phaeocystis* during phytoplankton spring blooms in the southern North Sea. *Mar. Ecol. Prog. Ser.* 96, 281-289.
- Robinson, C., Archer, S.D., le. B. Williams, P.J., 1999. Microbial dynamics in coastal waters of East Antarctica: plankton production and respiration. *Mar. Ecol. Prog. Ser.* 180, 23-36.
- Saggiomo, V., Carrada, G.C., Mangoni, O., Ribera d'Alcalà, M., Russo, A., 1998. Spatial and temporal variability of size-fractionated biomass and primary production in the Ross Sea (Antarctica) during austral spring and summer. *J. Mar. Syst.* 17, 97-113.
- Scott, F.J., Davidson, A.T., Marchant, H.J., 2000. Seasonal variation in plankton, submicrometre particles and size-fractionated dissolved organic carbon in Antarctic coastal waters. *Polar Biol.* 23, 635-643.
- Selph, K.E., Landry, M.R., Allen, C.B., Calbet, A., Christensen, S., Bidigare, R.R., 2001. Microbial community composition and growth dynamics in the Antarctic Polar Front and seasonal ice zone during late spring 1997. *Deep-Sea Res. II* 48, 4059-4080.
- Sherr, E.B., Sherr, B.F., Wheeler, P.A., Thompson, K., 2003. Temporal and spatial variation in stocks of autotrophic and heterotrophic microbes in the upper water column of the central Arctic Ocean. *Deep-Sea Res. I* 50, 557-571.
- Stefels, J., Dijkhuizen, L., Gieskes, W.W.C., 1995. DMSP-lyase activity in a spring phytoplankton bloom off the Dutch coast, related to *Phaeocystis* sp. abundance. *Mar. Ecol. Prog. Ser.* 123, 235-243.
- Stockwell, D.A., Whitley, T.E., Zeeman, S.I., Coyle, K.O., Napp, J.M., Brodeur, R.D., Pinchuk, A.I., Hunt, J.G.L., 2001. Anomalous conditions in the south-eastern Bering Sea, 1997: nutrients, phytoplankton and zooplankton. *Fish. Oceanogr.* 10, 99-116.
- Stoecker, D.K., Putt, M., Moisan, T., 1995. Nano- and microplankton dynamics during the spring *Phaeocystis* sp. bloom in McMurdo Sound, Antarctica. *J. Mar. Biol. Ass. U.K.* 75, 815-832.

- Takeda, S., Kamatani, A., Kawanobe, K., 1995. Effects of nitrogen and iron enrichments on phytoplankton communities in the northwestern Indian Ocean. *Mar. Chem.* 50, 229-241.
- Tréguer, P., Lindner, L., Leynaert, A., Panouse, M., Jacques, G., 1991. Production of biogenic silica in the Weddell-Scotia Seas measured with ^{32}Si . *Limnol. Oceanogr.* 36, 1217-1227.
- Turner, J.T., 1994. Planktonic copepods of Boston Harbor, Massachusetts Bay and Cape Cod Bay, 1992. *Hydrobiol.* 292/293, 405-413.
- Varela, M., Fernandez, E., Serret, P., 2002. Size-fractionated phytoplankton biomass and primary production in the Gerlache and south Bransfield Straits (Antarctic Peninsula) in Austral summer 1995-1996. *Deep-Sea Res. II* 49, 749-768.
- Veldhuis, M.J.W., Colijn, F., Venekamp, L.A.H., 1986. The spring bloom of *Phaeocystis pouchetii* (Haptophyceae) in Dutch coastal waters. *Neth. J. Sea Res.* 20, 37-48.
- Venrick, E.L., 1997. Comparison of the phytoplankton species composition and structure in the climax area (1973-1985) with that of station ALOHA (1994). *Limnol. Oceanogr.* 42, 1643-1648.
- Wassmann, P., Vernet, M., Mitchell, B.G., 1990. Mass sedimentation of *Phaeocystis pouchetii* in the Barents Sea. *Mar. Ecol. Prog. Ser.* 66, 183-195.
- Weaver, S.S., 1979. *Ceratium* in Fire Island Inlet, Long Island, New York (1971-1977). *Limnol. Oceanogr.* 24, 553-558.
- Wolfe, G.V., Levasseur, M., Cantin, G., Michaud, S., 2000. DMSP and DMS dynamics and microzooplankton grazing in the Labrador Sea: application of the dilution technique. *Deep-Sea Res. I* 47, 2243-2264.