

C.I.P.S.

MODELE MATHEMATIQUE DE LA
POLLUTION EN MER DU NORD

TECHNICAL REPORT

1975/BIOL.06

This paper not to be cited without prior reference to the author

222814

Primary production in the Southern Bight of the North Sea .
Results of the year 1975 (from January to July)

by J. Nijs and J.P.Mommaerts ,Lab.v.Ekologie en Systematiek,V.U.B.



Vlaams Instituut voor de Zee
Flanders Marine Institute

70175	55			
GROSS P.OPT(MG C/M3/H)	6.82	9.34	15.96	
DARK FIXATION .81				
RATIO NET/NANNO 2.55				
INT.GROSS P(MG C/M2/D)	27	37	63	
EXT.COEFF 2.69				
DAILY IRRAD. 49				
12 8 8 4.23 10 3				
70175	9			
GROSS P.OPT(MG C/M3/H)	9.13	12.51	21.38	
DARK FIXATION .01				
RATIO NET/NANNO .79				
INT.GROSS P(MG C/M2/D)	91	125	214	
EXT.COEFF 1.07				
DAILY IRRAD. 49				
12 8 8 4.23 10 3				
80175	15			
GROSS P.OPT(MG C/M3/H)	8.17	11.2	19.13	
DARK FIXATION .28				
RATIO NET/NANNO .77				
INT.GROSS P(MG C/M2/D)	98	134	229	
EXT.COEFF .89				
DAILY IRRAD. 49				
12 8 8 4.23 10 3				
90175	17			
GROSS P.OPT(MG C/M3/H)	8.48	11.62	19.86	
DARK FIXATION .24				
RATIO NET/NANNO .68				
INT.GROSS P. NOT COMPUTABLE				
12 8 8 4.23				
90175	20			
GROSS P.OPT(MG C/M3/H)	6.45	8.84	15.11	
DARK FIXATION .53				
RATIO NET/NANNO .33				
INT.GROSS P(MG C/M2/D)	155	212	363	
EXT.COEFF .44				
DAILY IRRAD. 49				
12 8 8 4.23 10 3				
100175	1			
GROSS P.OPT(MG C/M3/H)	18.97	26	44.4	
DARK FIXATION .48				
RATIO NET/NANNO .48				
INT.GROSS P(MG C/M2/D)	76	104	177	
EXT.COEFF 2.69				
DAILY IRRAD. 49				
12 8 8 4.23 10 3				

80175 12

GROSS P.OPT(MG C/M3/H)	10.51	14.41	24.61
DARK FIXATION 1.14			
RATIO NET/NANNO 1.84			
INT.GROSS P.(MG C/M2/D)	42	57	98
EXT.COEFF 2.69			
DAILY IRRAD. 49			
12 8 8 4.23 10 3			

80175 11

GROSS P.OPT(MG C/M3/H)	6.09	8.34	14.25
DARK FIXATION .84			
RATIO NET/NANNO 1.54			
INT.GROSS P. NOT COMPUTABLE			
12 8 8 4.23			

90175 16

GROSS P.OPT(MG C/M3/H)	2	2.74	4.68
DARK FIXATION 1.12			
RATIO NET/NANNO 2.55			
INT.GROSS P.(MG C/M2/D)	20	27	46
EXT.COEFF 1.07			
DAILY IRRAD. 49			
12 8 8 4.23 10 3			

190275 16

GROSS P.OPT(MG C/M3/H)	3.68	5.05	8.63
DARK FIXATION 1.06			
RATIO NET/NANNO 4.77			
INT.GROSS P. NOT COMPUTABLE			
36 10 9.59 5.81			

190275 80

GROSS P.OPT(MG C/M3/H)	12.17	16.67	28.48
DARK FIXATION .68			
RATIO NET/NANNO 3.1			
INT.GROSS P. NOT COMPUTABLE			
36 10 9.59 5.81			

210275 5

GROSS P.OPT(MG C/M3/H)	.66	.91	1.56
DARK FIXATION .51			
RATIO NET/NANNO 0			
INT.GROSS P. NOT COMPUTABLE			
62 11 9.59 5.81			

210275 55

GROSS P.OPT(MG C/M3/H)	7.64	10.46	17.87
DARK FIXATION .37			
RATIO NET/NANNO .25			
INT.GROSS P. NOT COMPUTABLE			
62 11 9.59 5.81			

210275 (12 miles off Ostend)

GROSS P.OPT(MG C/M3/H)	10.16	13.92	23.79
DARK FIXATION .16			
RATIO NET/NANNO .91			
INT.GROSS P. NOT COMPUTABLE			
62 11 9.59 5.81			

30375 51

GROSS P.OPT(MG C/M3/H)	25.82	35.37	60.42
DARK FIXATION .53			
RATIO NET/NANNO 4.4			
INT.GROSS P. NOT COMPUTABLE			
55 11 8 4.23			

30375 52

GROSS P.OPT(MG C/M3/H)	46.4	63.57	104.58
DARK FIXATION .6			
RATIO NET/NANNO 10.54			
INT.GROSS P. NOT COMPUTABLE			
55 11 8 4.23			

30375 1068

GROSS P.OPT(MG C/M3/H)	149.95	205.43	350.89
DARK FIXATION .35			
RATIO NET/NANNO 7.95			
INT.GROSS P. NOT COMPUTABLE			
55 11 8 4.23			

40375 8

GROSS P.OPT(MG C/M3/H)	23.79	32.59	55.67
DARK FIXATION .29			
RATIO NET/NANNO 5.46			
INT.GROSS P. NOT COMPUTABLE			
55 11 8 4.23			

40375 9

GROSS P.OPT(MG C/M3/H)	17	23.29	39.79
DARK FIXATION .22			
RATIO NET/NANNO 7.93			
INT.GROSS P. NOT COMPUTABLE			
55 11 8 4.23			

40375 10

GROSS P.OPT(MG C/M3/H)	3.27	4.49	7.67
DARK FIXATION .57			
RATIO NET/NANNO 0			
INT.GROSS P. NOT COMPUTABLE			
55 11 8 4.23			

50375	5			
GROSS P.OPT(MG C/M3/H)		22.18	30.39	51.91
DARK FIXATION .5				
RATIO NET/NANNO 1.34				
INT.GROSS P. NOT COMPUTABLE				
55 12 R 4.23				
50375	55			
GROSS P.OPT(MG C/M3/H)		27.53	37.72	64.43
DARK FIXATION .48				
RATIO NET/NANNO 2.39				
INT.GROSS P. NOT COMPUTABLE				
55 12 R 4.23				
50375	6			
GROSS P.OPT(MG C/M3/H)		12.58	17.24	29.44
DARK FIXATION .58				
RATIO NET/NANNO .93				
INT.GROSS P. NOT COMPUTABLE				
55 12 R 4.23				
210375	8			
GROSS P.OPT(MG C/M3/H)		6.38	8.75	14.94
DARK FIXATION .29				
RATIO NET/NANNO 1				
INT.GROSS P. NOT COMPUTABLE				
81 12 R 4.23				
210375	55			
GROSS P.OPT(MG C/M3/H)		18.97	25.99	44.39
DARK FIXATION .89				
RATIO NET/NANNO .38				
INT.GROSS P. NOT COMPUTABLE				
81 12 R 4.23				
70475	1154			
GROSS P.OPT(MG C/M3/H)		44.43	60.87	103.97
DARK FIXATION 1.29				
RATIO NET/NANNO 1.18				
INT.GROSS P. NOT COMPUTABLE				
71 13 6.85 3.26				

290475 22

GROSS P.OPT(MG C/M3/H)	6.61	9.06	15.48
DARK FIXATION .49			
RATIO NET/NANNO .66			
INT.GROSS P(MG C/M2/D)	973	1333	2278
EXT.COEFF .21			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

290475 21

GROSS P.OPT(MG C/M3/H)	47.16	64.62	110.37
DARK FIXATION .58			
RATIO NET/NANNO .01			
INT.GROSS P(MG C/M2/D)	2178	2984	5097
EXT.COEFF .68			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

290475 25

GROSS P.OPT(MG C/M3/H)	16.36	22.42	38.3
DARK FIXATION .19			
RATIO NET/NANNO 5.94			
INT.GROSS P(MG C/M2/D)	1107	1517	2591
EXT.COEFF .46			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

290475 24

GROSS P.OPT(MG C/M3/H)	10.71	14.67	25.07
DARK FIXATION .25			
RATIO NET/NANNO 9.92			
INT.GROSS P(MG C/M2/D)	982	1345	2297
EXT.COEFF .34			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

300475 13

GROSS P.OPT(MG C/M3/H)	36.43	49.91	85.26
DARK FIXATION .49			
RATIO NET/NANNO 3.27			
INT.GROSS P(MG C/M2/D)	1473	2018	3447
EXT.COEFF .77			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

300475 12

GROSS P.OPT(MG C/M3/H)	39.48	54.09	92.39
DARK FIXATION .38			
RATIO NET/NANNO .33			
INT.GROSS P(MG C/M2/D)	744	1020	1742
EXT.COEFF 1.66			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

300475 17

GROSS P.OPT(MG C/M3/H)	11.05	15.13	25.85
DARK FIXATION .45			
RATIO NET/NANNO 3.58			
INT.GROSS P(MG C/M2/D)	356	488	834
EXT.COEFF .97			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

300475 18

GROSS P.OPT(MG C/M3/H)	3.31	4.53	7.75
DARK FIXATION .49			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	254	348	595
EXT.COEFF .4			
DAILY IRRAD. 728			
100 14 6 2.65 31 4			

200575 1068

GROSS P.OPT(MG C/M3/H)	22.15	30.35	51.84
DARK FIXATION .32			
RATIO NET/NANNO 1.98			
INT.GROSS P. NOT COMPUTABLE			
81 15 6 2.65			

200575 51

GROSS P.OPT(MG C/M3/H)	8.94	12.25	20.92
DARK FIXATION .51			
RATIO NET/NANNO .18			
INT.GROSS P. NOT COMPUTABLE			
81 15 6 2.65			

20675 51

GROSS P.OPT(MG C/M3/H)	13.86	18.99	32.43
DARK FIXATION 1.41			
RATIO NET/NANNO .62			
INT.GROSS P. NOT COMPUTABLE			
110 16 4.79 1.92			

20675 1068

GROSS P.OPT(MG C/M3/H)	19.57	26.81	45.8
DARK FIXATION .76			
RATIO NET/NANNO .99			
INT.GROSS P. NOT COMPUTABLE			
110 16 4.79 1.92			

40675	1154			
GROSS P.OPT(MG C/M3/H)	6.69	9.16	15.65	
DARK FIXATION .79				
RATIO NET/NANNO 2.87				
INT.GROSS P. NOT COMPUTABLE				
110 16 4.79 1.92				
40675	1197			
GROSS P.OPT(MG C/M3/H)	2.61	3.57	6.11	
DARK FIXATION 1.28				
RATIO NET/NANNO 0				
INT.GROSS P. NOT COMPUTABLE				
110 16 4.79 1.92				
40675	9			
GROSS P.OPT(MG C/M3/H)	.38	.52	.89	
DARK FIXATION 1.92				
RATIO NET/NANNO 0				
INT.GROSS P. NOT COMPUTABLE				
110 16 4.79 1.92				
50675	54			
GROSS P.OPT(MG C/M3/H)	12.48	17.11	29.22	
DARK FIXATION 1.99				
RATIO NET/NANNO .39				
INT.GROSS P. NOT COMPUTABLE				
110 16 4.79 1.92				
50675	55			
GROSS P.OPT(MG C/M3/H)	23.45	32.13	54.87	
DARK FIXATION 1.16				
RATIO NET/NANNO 3.86				
INT.GROSS P. NOT COMPUTABLE				
110 16 4.79 1.92				
160675	15			
GROSS P.OPT(MG C/M3/H)	1.75	2.41	4.11	
DARK FIXATION .15				
RATIO NET/NANNO .23				
INT.GROSS P(MG C/M2/D)	19	26	44	
EXT.COEFF 3.21				
DAILY IRRAD. 883				
106 16 4.79 1.92 34	5			
170675	22			
GROSS P.OPT(MG C/M3/H)	.85	1.16	1.99	
DARK FIXATION .57				
RATIO NET/NANNO 0				
INT.GROSS P(MG C/M2/D)	101	138	236	
EXT.COEFF .29				
DAILY IRRAD. 883				
106 16 4.79 1.92 34	5			

170675 16

GROSS P.OPT(MG C/M3/H)	11.1"	15.23	26.02
DARK FIXATION .22			
RATIO NET/NANNO 50.11			
INT.GROSS P(MG C/M2/D)	855	1172	2002
EXT.COEFF .45			
DAILY IRRAD. 883			
106 16 4.79 1.92 34 5			

170675 17

GROSS P.OPT(MG C/M3/H)	1.7	2.33	3.98
DARK FIXATION 1.02			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	191	262	447
EXT.COEFF .31			
DAILY IRRAD. 883			
106 16 4.79 1.92 34 5			

170675 20

GROSS P.OPT(MG C/M3/H)	4.17	5.71	9.76
DARK FIXATION .3			
RATIO NET/NANNO 14.52			
INT.GROSS P(MG C/M2/D)	450	617	1055
EXT.COEFF .32			
DAILY IRRAD. 883			
106 16 4.79 1.92 34 5			

180675 12

GROSS P.OPT(MG C/M3/H)	3.98	5.45	9.31
DARK FIXATION 0			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	472	647	1106
EXT.COEFF .29			
DAILY IRRAD. 883			
106 16 4.79 1.92 34 5			

100775 22

GROSS P.OPT(MG C/M3/H)	1.28	1.75	2.99
DARK FIXATION .22			
RATIO NET/NANNO 1.97			
INT.GROSS P(MG C/M2/D)	254	348	594
EXT.COEFF .17			
DAILY IRRAD. 828			
100 16 4.36 1.7 34 5.5			

80775 1041

GROSS P.OPT(MG C/M3/H)	3.44	4.72	8.06
DARK FIXATION .42			
RATIO NET/NANNO 1.89			
INT.GROSS P(MG C/M2/D)	199	273	467
EXT.COEFF .58			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

80775 4

GROSS P.OPT(MG C/M3/H)	.77	1.06	1.81
DARK FIXATION .35			
RATIO NET/NANNO 9.53			
INT.GROSS P(MG C/M2/D)	34	47	81
EXT.COEFF .75			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

90775 9

GROSS P.OPT(MG C/M3/H)	2.31	3.17	5.42
DARK FIXATION .39			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	203	278	476
EXT.COEFF .38			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

90775 55

GROSS P.OPT(MG C/M3/H)	1.28	1.76	3.01
DARK FIXATION .39			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	59	82	140
EXT.COEFF .73			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

90775 5

GROSS P.OPT(MG C/M3/H)	2.8	3.84	6.56
DARK FIXATION .39			
RATIO NET/NANNO .85			
INT.GROSS P(MG C/M2/D)	98	134	229
EXT.COEFF .97			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

90775 12

GROSS P.OPT(MG C/M3/H)	.37	.51	.87
DARK FIXATION 1.14			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	51	70	119
EXT.COEFF .24			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

90775 11

GROSS P.OPT(MG C/M3/H)	.35	.48	.83
DARK FIXATION .39			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	25	35	60
EXT.COEFF .47			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

100775 25

GROSS P.OPT(MG C/M3/H)	1.46	2.01	3.43
DARK FIXATION 1.93			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	115	158	270
EXT.COEFF .43			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

110775 11

GROSS P.OPT(MG C/M3/H)	2.8	3.84	6.56
DARK FIXATION .27			
RATIO NET/NANNO 6.61			
INT.GROSS P(MG C/M2/D)	325	446	761
EXT.COEFF .29			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

110775 15

GROSS P.OPT(MG C/M3/H)	3.87	5.3	9.05
DARK FIXATION .27			
RATIO NET/NANNO .63			
INT.GROSS P(MG C/M2/D)	419	575	982
EXT.COEFF .31			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

100775 17

GROSS P.OPT(MG C/M3/H)	4.52	6.2	10.59
DARK FIXATION .43			
RATIO NET/NANNO .04			
INT.GROSS P(MG C/M2/D)	525	720	1229
EXT.COEFF .29			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

100775 16

GROSS P.OPT(MG C/M3/H)	3.6	4.94	8.44
DARK FIXATION .51			
RATIO NET/NANNO .83			
INT.GROSS P(MG C/M2/D)	488	669	1142
EXT.COEFF .25			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		

100775 21

GROSS P.OPT(MG C/M3/H)	6.72	9.21	15.73
DARK FIXATION .31			
RATIO NET/NANNO 0			
INT.GROSS P(MG C/M2/D)	534	732	1251
EXT.COEFF .42			
DAILY IRRAD. 828			
100 16 4.36 1.7 34	5.5		