Supplement of Ocean Sci. Discuss., 11, 2073–2117, 2014
http://www.ocean-sci-discuss.net/11/2073/2014/
doi:10.5194/osd-11-2073-2014-supplement

Ocean Science
Discussions
Open Access

Supplement of

Using empirical orthogonal functions derived from remote sensing reflectance for the prediction of concentrations of phytoplankton pigments

A. Bracher et al.

Correspondence to: A. Bracher (astrid.bracher@awi.de)

1 Supplement: Additional tables

Table 1. List of cruises from which HPLC surface pigment data sets were used for the satellite-based data set, including database (DB) or citation (ref.), cruise name, investigator, date and region.

DB/ref.	Cruise	Dates	Investigator	Region
BODC	AMT12	27-31 May 03	Tim Jickells	12°N-10°S, 35°-14°W
BODC	AMT13	24 -28 Sep 03	Carol Robins	20°N-0°, 25°-18°W
BODC	AMT 14	12-23 May 04	Patrick Holligans	32°N-7°S, 36°-25°W
BODC	AMT 15	4-12 Oct 04	Andy Rees	34°N-8°S, 25°-17°W
BODC	AMT 16	7-12 Jun 05	Patrick Holligans	14°N-2°S, 32°-25°W
Own data	ANTXXIII/1	26 Oct-8 Nov 05	Rüdiger Röttgers	39°N-10°S, 21°-4°W
SEABASS	EGEE3	29 May-4 Jul 05	A.Subramamanian	6°-10°S, 10°-3°E
SEABASS	Amma-rb-06	25 Jun-3 Jul 06	Norman Nelson	14°N-5°S, 23°W
SEABASS	EGEE5	10-11 Jun 07	A Subramamanian	8°-5°N, 6°-2°W
Own data	ANTXXIV/1	1-15 Nov 07	Bettina Taylor	35°N-6°S, 22°-2°W
BODC	D325	17 Nov-15 Dec 07	Ruth Airs	26°-16°N, 25°-22°W
LOV	BonusGoodH	14-28 Feb 08	Josephine Ras	18°-8°N, 42°-33°W
BODC	AMT 18	12-26 Oct 08	Victor Martinez	33°N-10°S, 41°-24°W
Own data	ANTXXIV/4	25 Apr-6 May 08	Bettina Taylor	35°N-10°S, 42°-23°W
Own data	ANTXXV/1	10-24 Nov 08	Bettina Taylor	35°N-9°S, 21°-14°W
BODC	AMT 19	22 Oct-10 Nov 09	Victor Martinez	33°N-9°S, 41°-24°W
Own data	ANTXXVI/4	24 Apr-9 May 10	Bettina Taylor	35°N-9°S, 27°-13°W
Own data	MSM18-3	30 Jun-18 Jul 11	Bettina Taylor	3°N-6°S,21°W-0°

Table 2. Specific pigments measured in samples collocated to the satellite-based (s) and field (f) reflectance data sets: Maximum (max) and minimum (min) in mg m^{-3} (for PE relative units are given), number and percentage of samples where specific pigments had a concentration of 0 mg m^{-3} (nd and nd %, respectively) or were not measured in most samples (nm). Prasino, Allo, Lut, β-caroten, TPhaeo and chlorophyllide-*a* were only detected in less than 60% of the samples at both data sets and are not listed here. Full pigment names and abbreviations are given in chapter 2.3.1.

Pigment	MVChla	DVChla	TChla	TChlb	Chl-*c*1/2	Chl-*c*3	Fuco	19BF	19HF
max-s	2.9920	0.1439	3.5529	0.1203	0.2607	0.1123	1.7931	0.1950	0.4752
min-s	0.0048	0.0052	0.0048	0.0014	0.0003	0.0001	0.0010	0.0013	0.0030
nd-s	0	15	0	41	14	51	15	14	8
nd-s [%]	0%	9%	0%	24%	8%	30%	9%	8%	5%
max-f	3.9759	0.2356	4.1505	1.1164	1.1568	0.6877	1.7890	0.3455	1.5512
min-f	0.0228	0.0097	0.0326	0.0034	0.0022	0.0015	0.0017	0.0019	0.0074
nd-f	0	4	0	18	0	1	1	0	0
nd-f [%]	0%	8%	0%	34%	0%	2%	2%	0%	0%

Pigment	Peri	PSC	Diadino	Diato	Viola	Zea	Caro	PPC	PE	Neo
max-s	0.0585	1.8917	0.3825	0.0482	0.0235	0.4660	0.1909	0.7311	nm	nm
min-s	0.0005	0.0028	0.0001	0.0001	0.0001	0.0086	0.0014	0.0195	nm	nm
nd-s	58	0	9	73	87	1	23	0	nm	nm
nd-s [%]	35%	0%	5%	43%	52%	1%	14%	0%	nm	nm
max-f	0.0477	3.6995	0.6315	0.0797	0.2532	0.3526	0.2626	1.0107	0.7296	0.1417
min-f	0.0017	0.0092	0.0045	0.0008	0.0006	0.0225	0.0029	0.0302	0.0008	0.0013
nd-f	17	0	1	8	14	0	0	0	0	29
nd-f[%]	32%	0%	2%	15%	26%	0%	0%	0%	0%	55%