SUPPLEMENTARY MATERIAL

ATMOSPHERIC OCCURRENCE, TRANSPORT AND DEPOSITION OF POLYCHLORINATED BIPHENYLS AND HEXACHLOROBENZENE IN THE MEDITERRANEAN AND BLACK SEAS

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SUPPLEMENTARY MATERIAL

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FIGURE S8: Spatial distribution of mono-ortho-substituted PCB congeners in the aerosol samples in pg m^{-3}.

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TEXT: PCA analysis for aerosol samples

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SUPPLEMENT F: FACTORS AFFECTING OCL OCCURRENCE IN MEDITERRANEAN MARINE ATMOSPHERIC ENVIRONMENT

TEXT: PCA analysis for gas phase samples

TABLE S11: Summary of component loadings (correlations between PCBs and principal component) for gas phase samples.

FIGURE S14: Principal component plot for gas phase samples generated using normalized data in pg m^{-3}

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TEXT: atmospheric resident times

TABLE S12: Dry deposition fluxes per sample in ng m^{-2} d^{-1}

TABLE S13: Detailed air-water fugacity ratios

FIGURE S15: Box-plot of the air-water fugacity ratios for the individual PCB congeners

TABLE S14: Detailed net diffusive air-water net exchange flux in ng m^{-2} d^{-1}

FIGURE S16: Plankton biomass in mg L^{-1} vs atmospheric gas phase concentrations in pg m^{-3} for four PCB congeners. For the time periods with the higher plankton biomass, the gas phase concentrations were at the lower end of those observed.

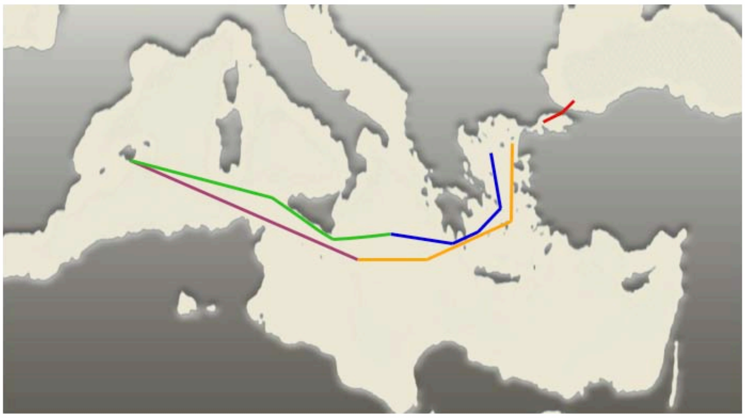
SUPPLEMENT A: SAMPLE COLLECTION

FIGURE S1: Mediterranean Sea sub-basins reference map

TABLE S1: Description of the collected air samples (date and location, sampled volume, amount of aerosols).

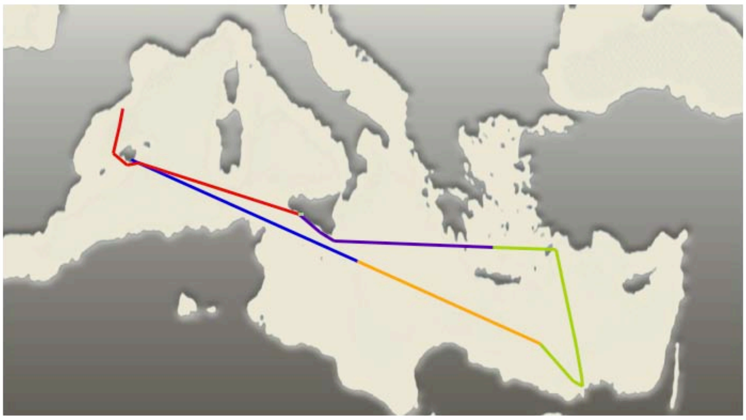
SAMPLE	Date	Time	End Date	End Time	FROM Lat [°N]	FROM Long [°E]	TO Lat [°N]	TO Long [°E]	SAMPLED VOLUME (m^{-3})	AEROSOL AMOUNT ($mg\ m^{-3}$)
T1	2/6/2006	9:50 pm	3/6/2006	10:30 am	39.608	2.291	41.169	2.288	379	0,099
T2	4/5/2007	10:30 am	5/5/2007	9:00 pm	40,59	2,12	39,54	3,86	282	0,041
T3	4/6/2007	12:00 pm	5/6/2007	9:30 am	39,06	5,76	39,56	2,64	441	0,056
STIa	5/7/2006	7:30 pm	5/7/2006	5:30 am	38,44	3,65	38,42	3,61	361	-
TIb	4/7/2006	9:30 pm	5/7/2006	5:30 am	38,40	3,61	38,43	3,64	300	0,155
T4	4/7/2006	7:00 am	4/7/2006	9:00 pm	38,14	4,54	38,40	3,61	490	0,149
STIIa	2/7/2006	9:00 pm	2/7/006	9:40 pm	37,95	5,47	37,97	5,39	383	-
STIIb	3/7/2006	9:40 pm	4/7/2006	6:30 am	37,97	5,39	38,13	4,54	330	0,189
T5	2/7/2006	11:00 am	2/7/2006	8:00 pm	37,78	6,91	37,92	5,59	353	0,119
T6	6/6/2006	9:00 am	6/6/2006	7:00 pm	37,92	11,33	37,29	12,87	305	0,111
T7	6/6/2006	7:00 pm	7/6/2006	9:00 am	37,29	12,87	36,79	14,25	262	0,184
T8	7/6/2006	9:00 am	6/7/2006	5:30 pm	36,79	14,25	36,46	16,10	230	0,070
T9	7/6/2006	9:40 pm	8/6/2006	7:30 am	36,46	16,10	36,53	17,48	359	0,105
T10	8/6/2006	7:40 am	8/6/2006	9:30 pm	36,53	17,48	36,73	18,99	447	-
STIIIa	25/6/2006	5:30 am	25/6/2006	7:00 pm	35,72	20,74	35,69	20,77	448	0,137
STIIIb	25/6/2006	8:30 pm	26/6/2006	9:00 am	35,68	20,79	35,67	20,05	304	0,234
T11	13/5/2007	9:30 am	14/5/2007	8:45 am	35,08	19,40	34,28	21,02	947	0,035
T12	14/5/2007	9:00 am	15/5/2007	9:00 am	34,28	21,02	33,11	24,73	950	0,083
T13	15/5/2007	9:00 am	16/5/2007	9:00 am	33,10	24,34	32,46	27,26	814	0,134
T14	16/5/2007	9:00 am	17/5/2007	7:00 am	32,46	27,26	31,29	29,21	414	0,099
T15	17/5/2007	7:00 am	17/5/2007	11:15 am	31,29	29,21	31,188	29,796	446	0,143
T16	21/5/2007	2:00 am	21/5/2007	3:00 pm	31,441	29,736	32,585	29,436	307	0,071
T17	21/5/2007	4:00 pm	22/5/2007	5:15 pm	33,69	29,12	36,08	28,22	848	0,037
T18	12/6/2006	6:30 am	12/6/2006	8:35 pm	36,23	22,35	36,68	23,80	493	-
T19	12/6/2006	9:20 pm	13/6/2006	6:45 am	36,75	23,92	37,52	25,26	350	
T20	13/6/2006	08.30 am	13/6/2006	8:00 pm	37.551	25.285	38.080	24.707	567	0,068
	14/6/2006	09.30 am	14/6/2006	8:00 pm	37.551	25.285	38.080	24.707		
T21	13/6/2006	10:15 pm	14/6/2006	7:00 am	38,22	24,83	40,08	26,34	679	0,090
T22	23/6/2006	8:00 am	23/6/2006	6:00 pm	38.457	25.223	37.056	25.924	304	0,170
T23	22/6/2006	8:00 pm	23/6/2006	5.30 pm	38.457	25.223	37.056	25.924	576	0,086
T24	16/6/2006	6:25 am	16/6/2006	4:30 pm	41,49	29,71	41,04	29,02	373	0,107
STIVa	19/6/2007	7:00 am	19/6/2007	2:30 pm	41,87	30,07	41,89	30,03	277	-
STIVb	19/6/2006	2:30 pm	19/6/2006	9:30 pm	41,89	30,03	41,91	29,98	294	0,143
STIVc	19/6/2006	9:30 pm	20/6/2006	6:00 am	41,91	29,98	41,88	29,84	328	0,272
T25	20/6/2006	7:00 am	20/6/2006	6:00 pm	41,90	29,64	41,13	29,07	371	0,109

FIGURE S2: Map of the air samples collected with the second and third high volume air samplers during the 2006 cruise.



SAMPLE	SAMPLING YEAR
Ti / Tii / Tiii	2006
Tiv / Tv / Tvi	2006
Tvii	2006
Tviii / Tix / Tx	2006
Txi / Txii /Txiii	2006

FIGURE S3: Map of the air samples collected with the second and third high volume air samplers during the 2007 cruise.



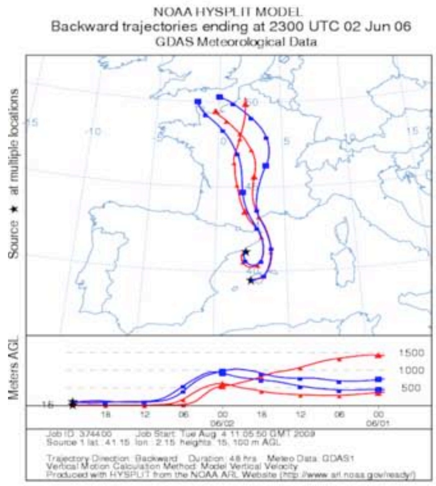
SAMPLE	SAMPLING YEAR
Txiv	2007
Txv	2007
Txvi	2007
Txvii	2007
Txviii	2007

TABLE S2: Description of the air samples collected with the second and third high volume samplers (date and location).

Sample	Date	End Date	Sampling Time	Lat [° N]	Long [° E]	Lat [° N]	Long [° E]
Ti	4 June 2006	8 June 2006	Day	39,305	2,739	36,590	18,583
Tii	3 June 2006	7 June 2006	Night	39,305	2,739	36,590	18,583
Tiii	4 June 2006	8 June 2006	Day + Night	39,305	2,739	36,590	18,583
Tiv	9 June 2006	14 June 2006	Day	36,590	18,583	39,929	25,968
Tv	8 June 2006	12 June 2006	Night	36,590	18,583	39,929	25,968
Tvi	8 June 2006	12 June 2006	Day + Night	36,590	18,583	39,929	25,968
Tvii	15 June 2006	19 June 2006	Day + Night	40,713	27,865	41,370	29,115
Tviii	22 June 2006	26 June 2006	Day	39,580	24,661	35,657	16,533
Tix	22 June 2006	26 June 2006	Night	39,580	24,661	35,657	16,533
Tx	22 June 2006	26 June 2006	Day + Night	39,580	24,661	35,657	16,533
Txi	27 June 2006	4 July 2006	Day	35,657	16,535	39,305	2,739
Txii	30 June 2006	4 July 2006	Night	35,657	16,535	39,305	2,739
Txiii	27 June 2006	4 July 2006	Day + Night	35,657	16,535	39,305	2,739
Txiv	5 May 2007	12 May 2007	Day + Night	39,361	2,757	36,168	16,148
Txv	12 May 2007	16 May 2007	Day + Night	36,168	16,148	32,650	27,591
Txvi	16 May 2007	25 May 2007	Day + Night	32,631	27,617	36,157	24,742
Txvii	25 May 2007	31 May 2007	Day + Night	36,157	27,617	37,370	12,986
Txviii	31 May 2007	6 June 2007	Day + Night	37,377	12,971	41,203	2,279

SUPPLEMENT B: BACK TRAJECTORIES

T1



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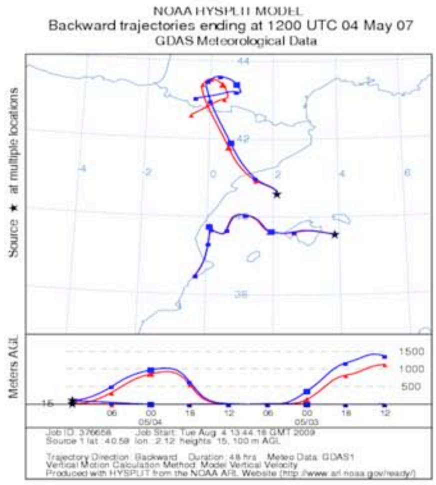

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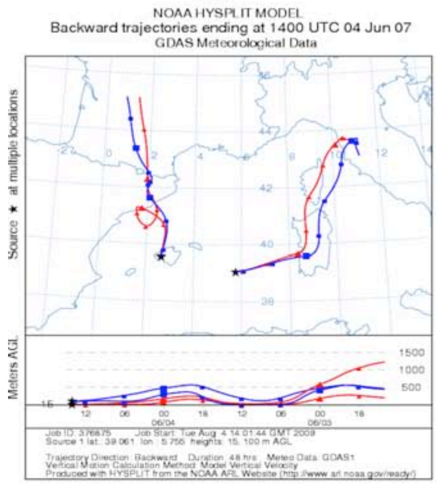
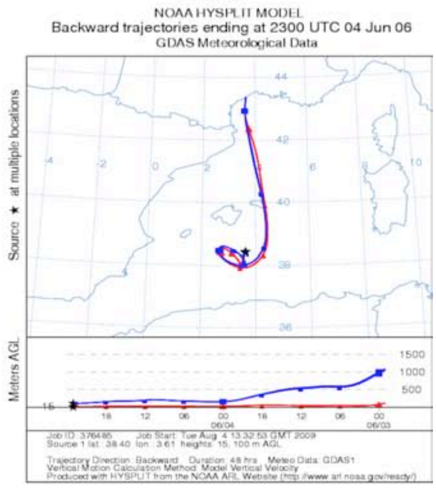


STIb



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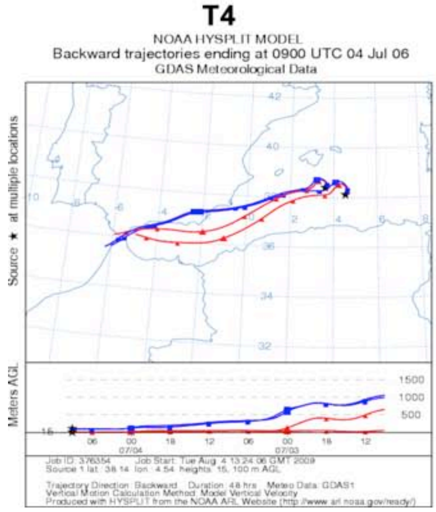
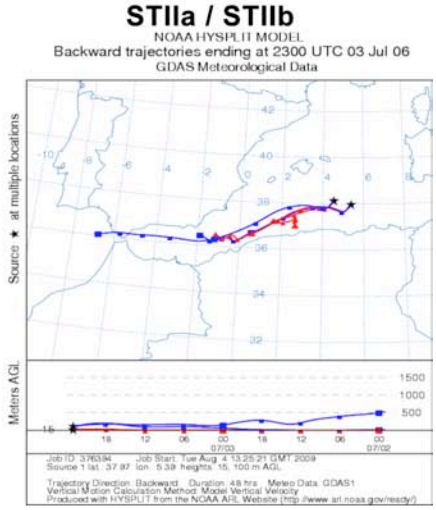


STIIa / STIIb



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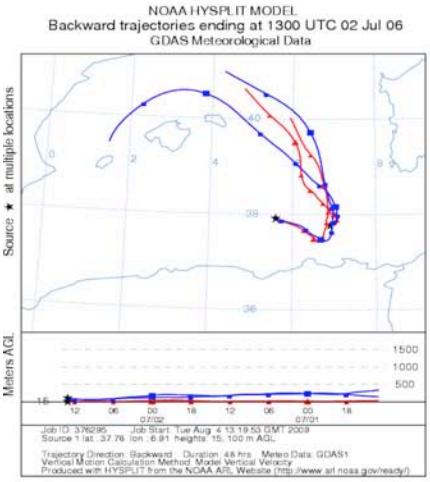

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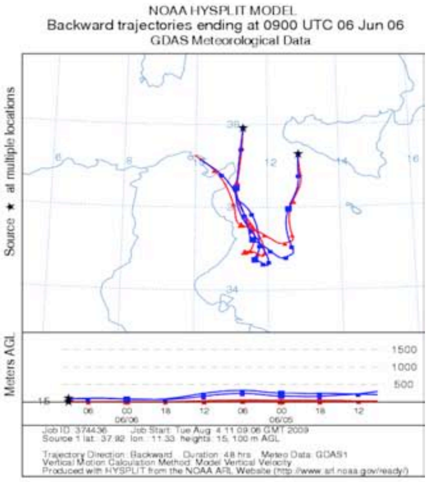

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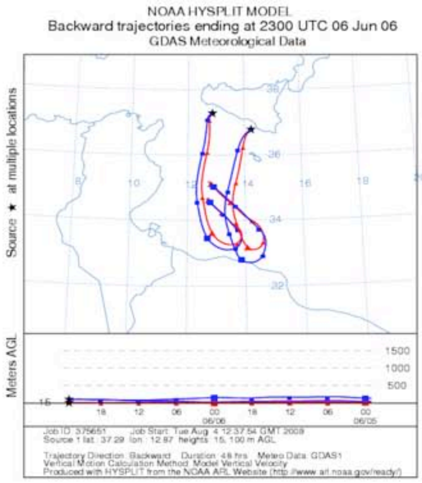

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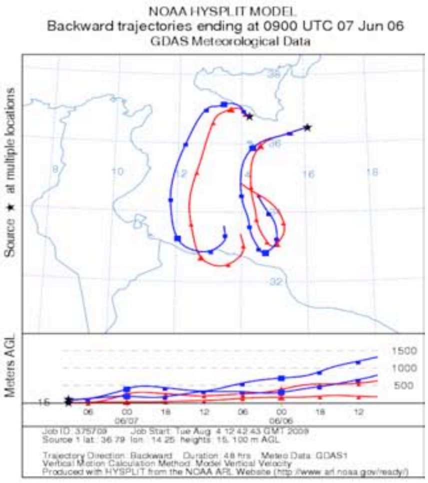

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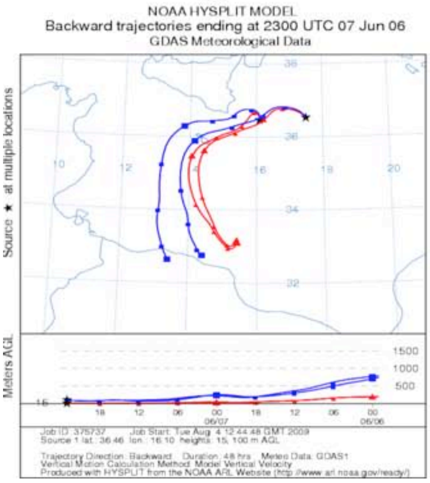

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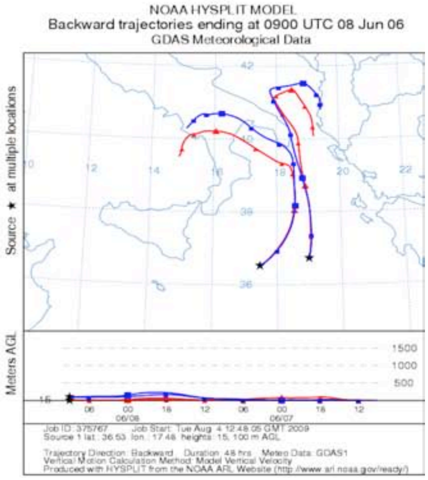

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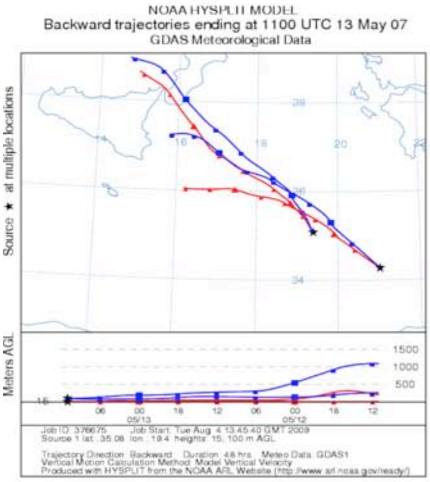

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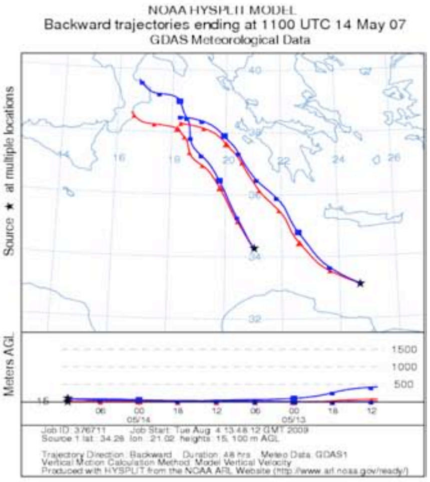

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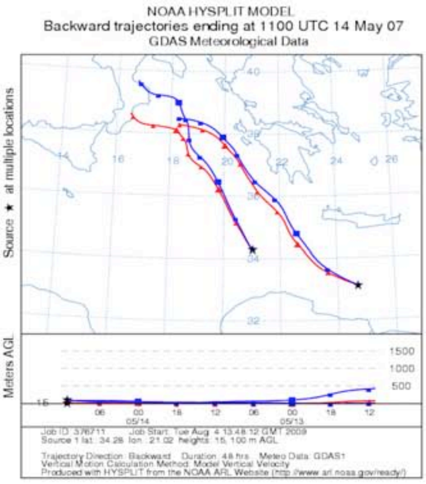

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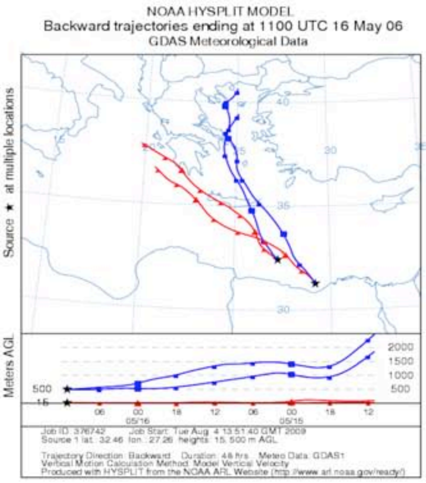

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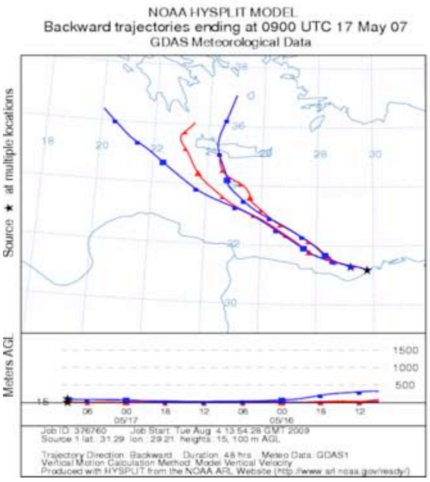

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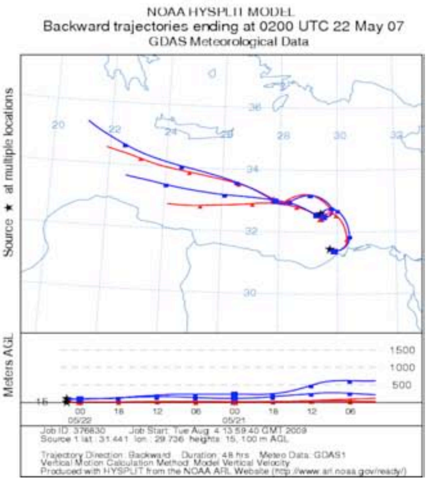

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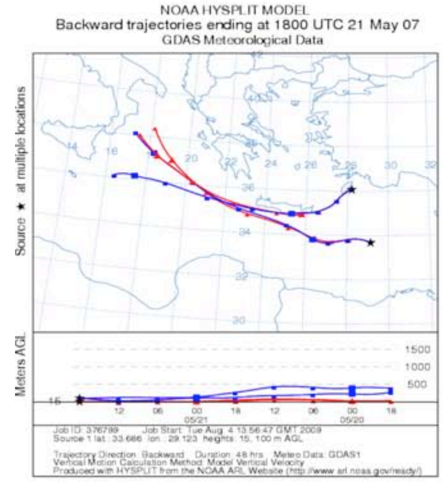
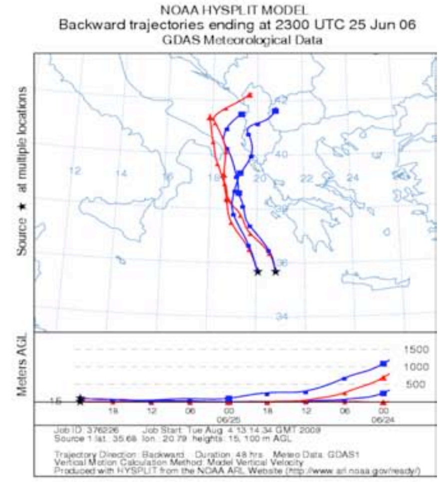


STIIIb



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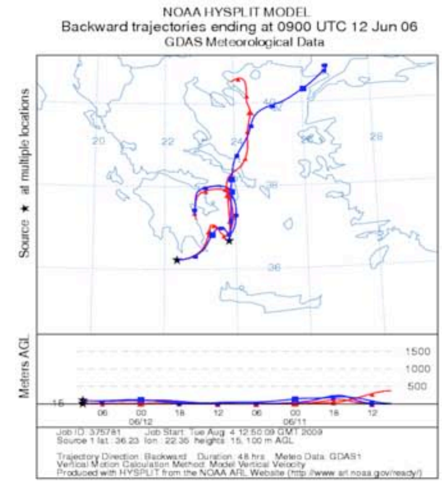

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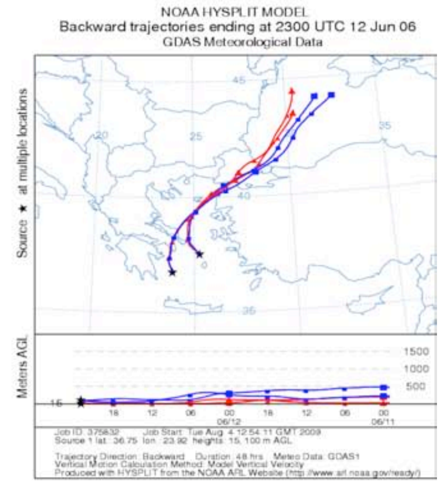

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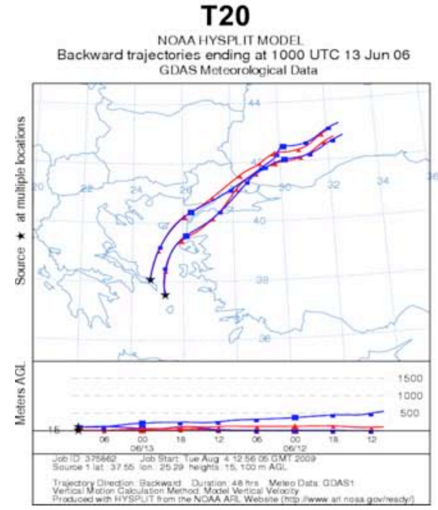

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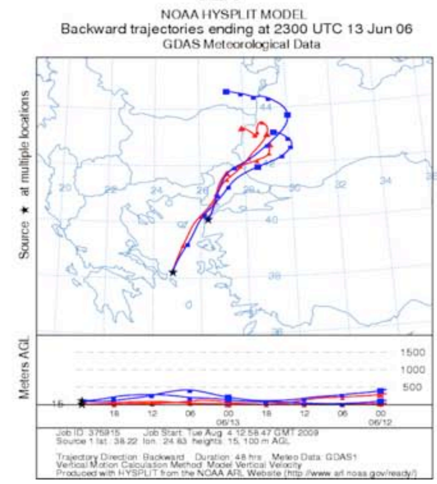

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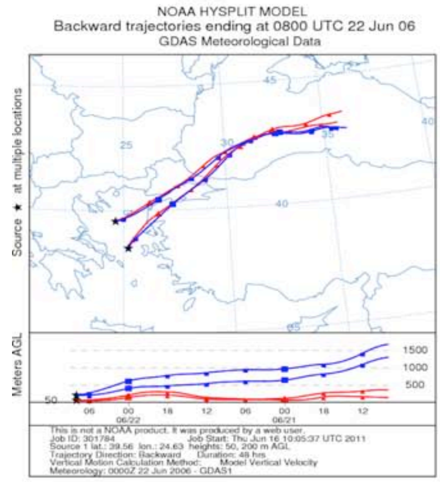

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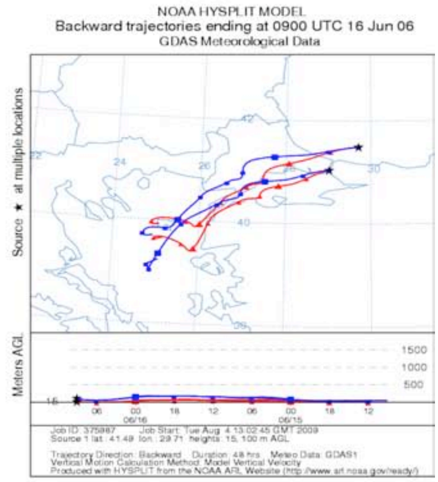

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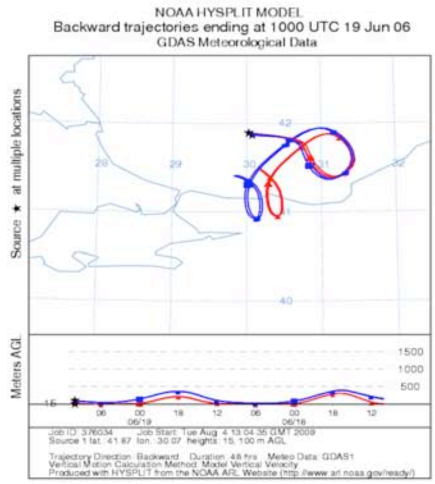

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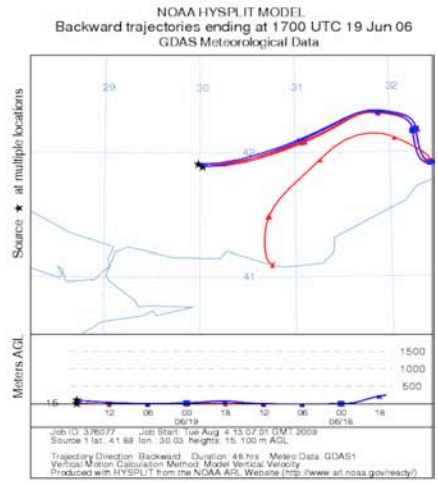

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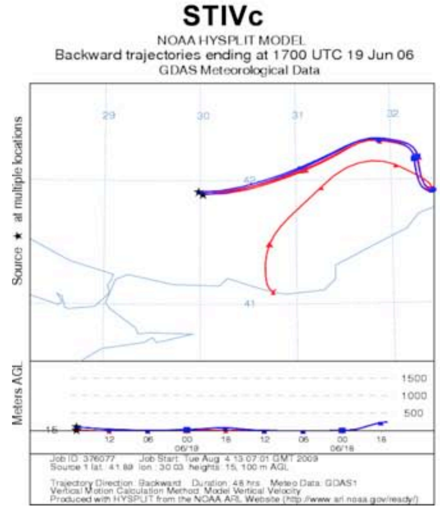

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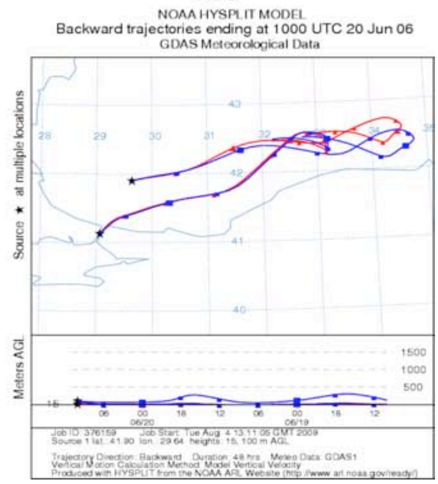


SUPPLEMENT C: ANALYTICAL PROCEDURE

TABLE S3: Instrumental detection limits (IDLs)

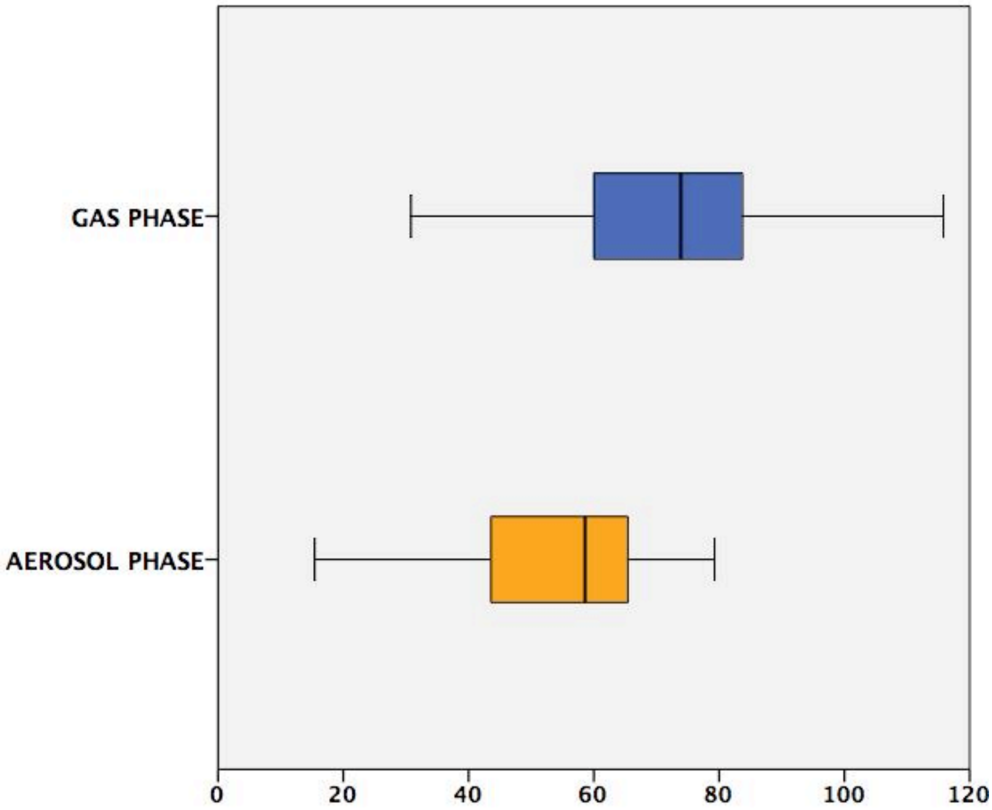
FIGURE S4: Recoveries (in %) of the analytical procedure for the two different types of matrices

TABLE S4: Field and procedural blanks for each sample matrix.

TABLE S3: Instrumental detection limits (IDLs) were determined from the lowest standard in the calibration curve. A mean air sampling of 500 m^3 and 0.05 g of particles per filter was applied to derived IDLs.

	GAS PHASE SAMPLES	AEROSOL SAMPLES
UNITS	pg m^{-3}	ng g^{-1}
HCB	0,007	0,069
PCB17	0,012	0,124
PCB18	0,071	0,710
PCB28	0,015	0,148
PCB31	0,001	0,010
PCB33	0,060	0,597
PCB44	0,010	0,102
PCB49	0,054	0,540
PCB52	0,004	0,040
PCB70	0,003	0,034
PCB74	0,007	0,068
PCB82	0,010	0,097
PCB87	0,006	0,055
PCB95	0,023	0,234
99/101	0,161	1,608
105/132	0,008	0,082
PCB110	0,002	0,018
PCB118	0,022	0,220
PCB128	0,019	0,190
PCB138	0,010	0,103
PCB149	0,003	0,026
PCB151	0,003	0,031
PCB153	0,090	0,897
156/171	0,038	0,375
PCB158	0,003	0,032
PCB169	0,004	0,043
PCB170	0,010	0,105
PCB177	0,006	0,064
PCB180	0,004	0,039
PCB183	0,019	0,193
PCB187	0,007	0,067
PCB191	0,009	0,091
PCB194	0,002	0,020
PCB195	0,006	0,065
201/199	0,056	0,557
PCB205	0,006	0,061
PCB206	0,055	0,551
PCB208	0,077	0,768
PCB209	0,056	0,559

FIGURE S4: Recoveries (in %) of the analytical procedure for the two different types of matrices.



The box plot graph represents the minimum, the lowest quartile, the median, the upper quartile and the maximum value of the % of recovery of each sample matrix.

TABLE S4: Field and procedural blanks for each sample matrix.

	GAS PHASE SAMPLES (n=5) pg m^{-3}				AEROSOL SAMPLES (n=5) pg m^{-3}				AEROSOL SAMPLES (n=5) ng g^{-1}			
Compounds	**MEDIAN**	**AVERAGE**	**MIN**	**MAX**	**MEDIAN**	**AVERAGE**	**MIN**	**MAX**	**MEDIAN**	**AVERAGE**	**MIN**	**MAX**
α-HCH	3,82	4,99	N/F	14,09	-	-	-	-	-	-	-	-
γ-HCH	3,43	6,05	1,51	13,48	-	-	-	-	-	-	-	-
δ-HCH	17,59	16,91	N/F	36,18	-	-	-	-	-	-	-	-
HCB	7,40	9,34	4,59	16,58	0,37	N/F	N/F	1,85	0,19	N/F	N/F	0,93
PCB17	4,51	4,60	N/F	11,21	0,89	N/F	N/F	4,43	0,44	N/F	N/F	2,21
PCB18	5,85	4,56	N/F	9,81	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB28	9,96	10,58	3,30	20,14	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB31	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB33	N/F	0,71	N/F	3,56	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB44	3,10	6,29	N/F	20,21	0,89	N/F	N/F	3,01	0,44	N/F	N/F	1,51
PCB49	2,97	4,67	N/F	12,05	2,39	2,24	N/F	7,25	1,20	1,12	N/F	3,62
PCB52	N/F	1,38	N/F	5,82	2,35	N/F	N/F	9,19	1,18	N/F	N/F	4,59
PCB70	4,97	4,93	N/F	11,57	1,16	N/F	N/F	3,04	0,58	N/F	N/F	1,52
PCB74	N/F	0,90	N/F	4,48	50,34	37,12	4,27	160,28	25,17	18,56	2,13	80,14
PCB82	2,22	3,71	N/F	9,32	1,68	1,45	0,80	2,99	0,84	0,73	0,40	1,49
PCB87	3,30	2,88	N/F	6,23	1,55	1,77	N/F	3,08	0,77	0,88	N/F	1,54
PCB95	N/F	N/F	N/F	N/F	4,75	4,31	0,83	9,72	2,38	2,16	0,41	4,86
99/101	5,57	7,00	N/F	16,04	11,08	7,71	4,27	20,53	5,54	3,86	2,14	10,26
105/132	N/F	0,26	N/F	1,28	0,29	N/F	N/F	1,43	0,14	N/F	N/F	0,72
PCB110	N/F	1,55	N/F	6,21	1,67	1,80	N/F	2,46	0,83	0,90	N/F	1,23
PCB118	N/F	N/F	N/F	N/F	2,41	2,72	N/F	3,64	1,21	1,36	N/F	1,82
PCB128	N/F	N/F	N/F	N/F	0,40	N/F	N/F	2,01	0,20	N/F	N/F	1,01
PCB138	N/F	1,43	N/F	7,17	2,86	2,97	1,62	3,55	1,43	1,48	0,81	1,77
PCB149	N/F	2,47	N/F	9,96	1,88	1,76	N/F	3,23	0,94	0,88	N/F	1,62
PCB151	5,87	6,60	3,74	10,19	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB153	N/F	2,43	N/F	9,83	2,37	2,50	N/F	3,64	1,18	1,25	N/F	1,82
156/171	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB158	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB169	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB170	N/F	2,88	N/F	14,38	0,38	N/F	N/F	1,89	0,19	N/F	N/F	0,95
PCB177	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB180	N/F	3,60	N/F	14,40	0,48	N/F	N/F	2,38	0,24	N/F	N/F	1,19
PCB183	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB187	N/F	N/F	N/F	N/F	2,97	2,86	1,65	4,09	1,49	1,43	0,83	2,05
PCB191	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB194	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB195	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
201/199	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB205	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB206	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB208	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F
PCB209	N/F	0,52	N/F	2,59	N/F	N/F	N/F	N/F	N/F	N/F	N/F	N/F

The calculated values for each matrix are referred to the average amount sampled: 500 m^3 for gas phase samples and 0,05 g of particles for aerosol samples. One blanks was analysed every five samples (the number of analysed blanks for each matrix is indicated below). Samples were corrected using the mean blank value shown in the table.

SUPPLEMENT D: ATMOSPHERIC OCCURRENCE OF PCBS AND HCB

TABLE S5: Organochlorine compound concentrations in gas phase samples given in pg m^{-3}.

	T1	T2	STIa	STIb	T4	STIIa	STIIb	T5	T6	T7	T8	T9	T10	STIIIb	T11	T12	T13	T14	T15	T17	T18	T19	T20	T21	T22	T23	STIVa	STIVb	STIVc	T25
α-HCH	6,80	24,10	15,29	4,56	6,28	21,13	14,19	15,88	0,51	-	-	38,20	7,10	32,44	-	12,74	3,59	87,55	19,27	8,77	29,07	84,83	36,00	48,92	38,83	33,22	73,14	48,40	16,42	74,21
γ-HCH	41,66	296,08	11,20	2,74	25,28	124,87	20,91	22,55	6,09	133,75	0,88	16,38	59,57	13,61	-	63,73	67,51	127,36	41,25	24,88	-	3,31	4,33	4,89	22,88	-	60,11	13,95	4,65	12,33
δ-HCH	375,61	305,46	-	-	7,97	47,49	-	-	-	-	-	-	12,38	-	30,57	13,57	9,89	-	9,39	29,23	48,37	-	-	-	-	44,89	-	-	-	-
HCB	87,85	200,92	3,66	2,43	59,34	418,30	50,93	23,33	36,56	-	25,14	61,77	178,54	16,01	-	8,80	5,16	50,17	30,97	7,16	73,14	25,19	10,85	11,23	46,08	106,11	57,46	100,23	13,72	26,55
PCB 17	24,44	2,07	26,41	-	0,59	5,21	29,42	1,55	6,58	1,94	-	0,85	10,14	8,28	-	17,98	6,75	-	12,17	-	3,24	9,18	3,86	4,14	11,48	-	15,85	0,11	70,13	4,68
PCB 18	37,85	57,72	14,94	0,89	-	14,85	23,43	-	11,97	1,16	-	1,64	8,10	22,71	9,04	170,30	9,37	-	115,71	-	6,66	16,32	9,86	14,77	15,14	-	8,72	-	43,92	15,15
PCB 28	-	-	10,36	-	2,65	-	45,54	3,62	0,88	16,89	-	8,93	8,03	20,29	-	3,45	4,29	-	-	-	-	72,82	22,15	8,87	27,56	-	14,41	6,00	53,99	22,48
PCB 33	34,43	52,13	-	7,72	10,90	26,35	48,35	24,42	9,49	9,46	11,01	-	8,27	44,33	10,03	-	12,51	-	-	-	11,75	22,04	10,42	8,78	48,56	13,17	-	11,27	-	80,43
PCB 49	15,73	27,54	27,62	4,27	4,70	8,66	15,79	9,96	-	4,14	-	2,66	14,81	47,73	-	10,09	-	12,90	-	-	18,01	29,47	3,45	-	35,19	0,97	-	-	14,19	36,19
PCB 52	41,99	100,97	-	7,36	8,20	64,39	24,46	13,40	-	-	14,99	-	6,85	53,68	2,67	-	21,68	15,94	-	12,64	16,32	50,92	12,21	19,18	-	11,02	-	14,63	-	
PCB 74	-	62,12	9,37	-	-	30,80	19,74	7,89	-	-	-	-	-	-	5,09	19,60	11,78	24,37	6,83	7,44	7,16	-	-	-	14,18	16,92	-	-	21,65	10,15
PCB 82	-	10,10	15,48	52,42	4,62	-	19,19	9,88	7,23	15,70	21,51	-	74,29	-	-	0,36	-	-	-	-	10,04	29,04	7,07	3,28	27,69	-	21,15	8,05	109,27	10,09
PCB 87	9,05	-	1,17	-	-	6,10	-	-	-	5,67	-	-	-	-	59,40	85,25	-	-	1,98	-	1,71	4,48	1,98	-	1,38	-	7,17	-	-	-
99/101	17,97	123,11	22,85	0,57	3,52	43,51	44,25	16,22	-	8,65	0,50	5,36	-	22,77	7,30	24,25	-	1,52	0,02	1,20	28,91	40,40	12,05	7,35	46,65	-	32,19	13,28	12,62	
105/132	-	105,45	-	-	-	15,92	-	-	6,61	3,82	6,00	-	-	-	35,97	24,31	26,18	34,30	21,21	18,60	-	7,65	4,70	3,37	11,85	-	14,36	8,83	-	10,09
PCB 110	-	-	8,06	3,32	1,89	5,73	9,01	1,78	3,08	5,19	7,28	3,77	7,07	11,07	1,77	2,44	-	1,67	1,89	-	-	18,67	8,18	23,42	16,11	3,93	16,71	5,77	12,85	7,83
PCB 118	-	15,78	4,90	4,27	4,28	14,91	-	-	4,31	3,11	5,14	-	2,68	10,56	14,78	11,24	-	2,96	0,97	-	6,81	10,58	4,36	5,64	6,08	17,80	3,93	7,25	-	5,44
PCB 128	-	-	-	-	-	-	-	-	4,00	-	6,12	-	2,15	-	1,72	3,36	1,25	1,43	0,65	0,80	1,63	-	3,26	-	-	-	4,47	-	4,54	6,89
PCB 138	26,26	56,01	7,68	7,35	1,24	20,76	14,84	13,05	26,49	18,10	33,69	12,79	19,69	12,33	14,98	13,95	14,91	22,94	9,38	7,40	22,47	15,48	10,65	5,73	24,05	17,00	42,22	20,03	22,02	23,21
PCB 149	26,27	98,95	17,79	9,19	9,83	43,40	19,49	23,55	22,02	13,85	26,46	11,61	13,60	21,27	10,84	15,37	12,16	23,51	15,19	7,05	27,55	14,94	10,42	8,02	26,84	-	56,79	25,93	17,48	20,97
PCB 151	44,62	7,31	0,54	-	-	0,57	1,64	-	-	11,37	-	0,03	2,66	5,85	-	1,71	-	-	-	-	4,25	20,68	-	1,23	6,81	-	6,64	-	3,91	0,71
PCB 153	35,19	68,36	-	7,42	9,48	29,59	19,87	21,80	27,59	18,63	39,21	14,79	22,38	14,96	20,17	18,47	15,15	22,48	10,13	7,41	21,18	16,74	8,36	6,86	20,25	24,78	45,36	24,00	35,16	26,69
156/171	-	-	-	-	-	-	-	-	-	-	16,37	-	-	-	-	-	-	-	-	-	-	-	-	9,77	-	-	-	-	-	-
PCB 158	-	-	-	-	-	-	4,16	-	-	-	4,48	-	-	-	-	1,94	-	1,91	-	0,28	-	-	-	-	-	-	3,28	-	2,31	1,78
PCB 169	-	-	-	-	-	-	-	-	18,73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 170	8,63	2,33	-	3,69	2,01	6,95	5,63	6,90	6,33	7,19	17,84	3,16	15,01	9,15	5,87	3,66	4,11	4,07	1,97	1,89	11,56	10,76	9,72	5,39	12,80	11,25	11,95	7,86	14,08	14,40
PCB177	-	1-	3,42	4,03	2,66	9,40	4,74	7,79	12,17	5,98	14,97	5,57	10,71	-	4,68	3,61	3,08	4,00	2,26	1,68	7,17	3,02	6,69	3,59	12,31	8,83	11,58	6,24	12,31	10,50
PCB 180	16,68	18,26	7,04	-	-	-	8,39	18,57	36,42	20,25	51,31	14,45	41,05	16,61	17,51	14,46	13,38	17,24	8,27	7,23	35,86	27,47	25,92	15,52	23,05	29,12	36,65	21,02	42,14	28,93

TABLE S5 (continuation): Organochlorine compound concentrations in gas phase samples given in pg m^{-3}

	T1	T2	STIa	STIb	T4	STIIa	STIIb	T5	T6	T7	T8	T9	T10	STIIIb	T11	T12	T13	T14	T15	T17	T18	T19	T20	T21	T22	T23	STIVa	STIVb	STIVc	T25
PCB 183	10,82	23,74	-	1,56	-	5,70	7,56	7,10	9,77	4,92	11,12	3,69	6,83	3,04	6,86	6,60	6,01	4,99	1,78	2,08	5,30	3,44	3,73	3,24	6,30	4,64	9,51	4,91	7,28	6,85
PCB 187	18,81	50,27	3,54	4,62	3,87	11,38	7,25	10,79	19,85	11,94	23,64	7,74	14,17	8,28	12,73	13,42	11,27	6,93	5,08	3,38	10,48	8,66	6,89	4,47	13,35	11,55	21,54	-	17,43	13,72
PCB 191	12,60	-	-	-	1,43	-	-	-	3,80	3,20	-	-	2,76	4,15	3,17	2,37	4,51	1,12	-	-	3,09	5,48	1,80	1,27	5,47	2,59	5,76	2,81	4,20	4,66
PCB 194	-	-	2,00	2,37	1,90	4,88	2,56	4,16	2,33	1,57	3,90	-	4,42	3,44	0,91	0,62	0,65	0,93	-	-	2,65	4,15	4,00	2,36	7,60	3,98	4,90	3,95	3,70	4,00
PCB 195	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
201/199	-	-	3,09	2,77	2,22	5,74	4,96	6,08	-	4,90	10,35	4,82	7,96	6,11	6,11	3,10	2,06	3,47	-	1,08	5,34	4,97	5,14	3,84	10,05	6,31	10,39	6,25	6,75	9,60
PCB 205	-	-	-	-	-	-	-	-	-	-	-	-	1,69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 208	-	-	-	-	-	-	-	-	-	-	-	-	2,95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE S6: Organochlorine compound concentrations in aerosol phase samples given in pg m^{-3}

	T1	T2	T3	STIb	T4	STIIb	T5	T6	T7	T8	T9	T10	STIIIa	STIIIb	T11	T12	T13	T14	T15	T16	T17	T18	T20	T21	T22	T23	T24	STIVb	STIVc	T25
HCB	0,11	0,28	0,13	0,27	0,21	-	0,29	0,06	0,15	0,16	-	0,19	0,26	0,18	-	0,10	-	-	-	-	-	0,28	0,19	0,07	-	0,24	0,72	-	-	-
PCB 17	-	-	0,12	-	-	-	-	-	-	-	-	0,58	-	-	-	-	-	-	-	-	-	-	0,57	-	-	0,40	-	-	-	-
PCB 18	-	-	0,03	0,92	0,49	-	0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 28	-	-	0,21	0,47	0,31	0,43	-	0,58	0,41	0,63	-	0,29	0,40	-	-	-	-	-	0,93	0,54	-	-	0,32	0,42	0,58	0,26	-	-	-	-
PCB 31	-	-	0,25	0,69	0,52	0,65	0,62	0,24	1,69	-	-	-	0,34	-	-	0,20	0,29	-	-	-	-	-	-	0,31	-	0,37	-	-	-	-
PCB 33	-	-	0,06	-	0,38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,20	-	0,36	-	-	-	-
PCB 44	0,08	-	0,10	1,53	1,16	1,71	1,24	0,01	-	-	0,63	0,37	0,41	-	-	-	0,47	-	-	-	-	-	0,36	0,23	-	0,23	-	0,56	-	0,39
PCB 49	-	-	0,10	2,80	1,67	2,30	1,60	-	-	-	0,11	0,45	0,12	-	-	-	0,07	-	-	-	-	-	0,40	-	-	0,12	-	-	-	-
PCB 52	0,98	-	-	-	3,50	3,34	-	1,09	1,25	1,59	1,85	1,01	1,31	0,95	-	-	0,84	-	-	-	-	1,35	0,95	0,74	-	0,82	2,93	1,96	1,15	0,76
PCB 70	-	-	-	1,97	1,35	1,63	1,42	1,03	3,26	-	0,84	0,53	0,65	0,68	-	-	0,54	-	-	-	-	0,52	0,51	0,65	0,85	0,38	-	0,80	0,92	0,45
PCB 82	0,08	0,54	-	1,61	1,04	1,68	1,22	0,24	-	-	0,67	0,28	0,48	0,16	0,05	0,01	0,37	0,01	-	0,06	-	-	0,23	0,19	0,15	0,09	-	0,66	0,65	0,41
PCB 87	-	-	-	0,63	0,45	0,83	0,65	-	-	-	0,08	-	0,09	-	-	-	0,21	-	-	-	-	0,05	-	-	-	-	-	-	0,15	-
PCB 95	-	0,68	-	3,11	2,16	3,10	2,73	-	-	-	0,89	0,65	0,63	0,13	0,17	-	0,61	-	-	0,28	-	0,28	0,57	-	0,34	0,12	-	0,66	0,47	0,34
99/101	-	1,84	-	7,30	5,08	7,90	6,74	-	-	-	3,07	1,72	1,91	0,98	0,15	0,05	1,91	0,01	-	0,41	-	1,64	1,12	-	1,81	0,62	0,83	3,01	2,73	1,50
105/132	1,51	0,75	0,17	1,61	0,81	1,40	0,99	1,30	1,26	2,15	0,78	0,51	0,75	0,47	-	-	0,43	0,37	-	-	0,15	-	0,35	0,92	0,54	0,28	-	1,08	1,03	0,65
PCB 110	0,32	0,27	0,31	1,06	0,35	0,39	0,37	-	0,34	0,02	0,35	0,24	0,20	0,20	0,07	0,09	0,13	0,18	1,30	0,40	0,09	0,22	0,15	0,35	0,23	0,23	-	0,25	0,13	0,24
PCB 118	-	0,81	-	1,92	0,86	1,90	1,33	-	-	-	0,59	0,10	0,21	-	-	0,11	0,21	0,17	0,02	0,33	-	0,06	0,03	-	0,42	0,13	-	0,77	1,03	0,29
PCB 128	-	0,74	0,03	-	0,22	0,31	0,27	-	0,66	-	-	-	-	-	0,16	0,15	-	0,46	1,00	0,62	-	-	-	-	-	-	-	-	0,34	-
PCB 138	3,74	3,05	0,12	1,52	0,85	1,71	1,59	0,69	1,40	0,83	1,62	0,64	0,92	0,39	0,28	0,20	0,65	1,28	1,23	1,06	0,04	0,70	0,25	0,33	1,12	0,24	-	2,20	2,82	0,75
PCB 149	1,42	2,22	0,29	2,36	1,25	2,65	2,13	0,61	1,23	0,74	1,45	0,58	0,91	0,47	-	0,07	0,59	0,52	0,06	0,42	0,03	0,92	0,39	0,45	1,08	0,50	-	1,59	1,67	0,65
PCB 151	0,13	0,60	0,01	1,07	0,52	1,24	0,58	-	0,05	0,03	0,43	0,20	0,38	0,05	-	-	0,12	0,09	-	0,17	-	0,29	0,15	0,08	0,20	0,08	-	0,47	0,36	-
PCB 153	2,87	3,00	0,15	1,37	0,79	1,46	1,29	1,10	0,95	0,98	1,44	0,58	0,74	0,25	0,27	0,19	0,57	1,23	1,39	1,16	0,05	1,13	0,25	0,35	1,01	0,30	0,50	1,97	2,14	0,42
156/171	2,30	-	-	-	0,46	-	0,92	0,91	0,80	0,96	1,04	-	0,69	0,66	0,25	-	0,38	0,70	-	-	-	0,61	0,41	1,29	0,76	0,42	-	-	0,40	-
PCB 158	-	0,26	-	-	0,17	0,22	0,20	-	0,21	-	-	-	-	0,13	-	-	-	-	-	-	-	-	-	-	0,22	-	-	0,28	0,33	0,12
PCB 169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 170	4,37	2,36	0,17	-	0,23	-	0,35	1,01	-	1,37	0,60	1,46	-	0,18	0,27	0,21	0,35	1,52	1,94	0,79	0,13	0,86	0,34	0,61	0,41	0,23	-	0,54	0,55	0,42
PCB177	2,05	1,13	0,08	-	0,25	-	-	0,77	0,94	0,55	-	0,30	0,22	-	-	-	0,21	0,48	-	-	-	0,32	-	-	-	0,23	-	-	-	-
PCB 180	10,30	4,77	0,46	0,72	0,37	0,66	-	-	-	2,90	1,68	2,72	-	-	0,57	0,46	0,66	2,99	4,16	1,49	0,31	-	0,61	-	1,18	-	3,26	1,65	1,66	0,80

TABLE S6 (continuation): Organochlorine compound concentrations in aerosol phase samples given in pg m^{-3}

	T1	T2	STIa	STIb	T4	STIIa	STIIb	T5	T6	T7	T8	T9	T10	STIIIb	T11	T12	T13	T14	T15	T17	T18	T19	T20	T21	T22	T23	STIVa	STIVb	STIVc	T25
PCB 183	-	0,60	0,04	-	0,22	-	-	-	2,09	-	0,28	-	0,24	-	-	-	-	0,38	-	-	-	0,32	-	-	-	0,19	-	0,29	0,32	-
PCB 191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 194	2,36	1,78	0,06	-	0,27	-	0,36	-	-	-	0,27	0,90	0,27	0,18	-	0,12	-	0,83	-	-	-	1,13	0,18	0,78	0,31	0,27	1,34	0,35	0,34	0,32
PCB 195	0,49	0,59	-	-	-	-	-	0,02	0,28	-	-	0,33	-	-	-	-	-	0,31	-	-	-	0,20	-	-	-	-	-	-	-	-
201/199	2,34	1,11	0,02	-	0,28	-	-	0,69	-	-	-	0,85	-	-	-	-	0,19	0,50	-	-	-	0,77	-	0,23	-	-	-	-	-	-
PCB 205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 208	0,29	-	0,03	-	-	-	-	0,16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,29	-	-
PCB 209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE S7: Organochlorine compound concentrations in aerosol phase samples given in ng g^{-1}

	T1	T2	T3	STIb	T4	STIIb	T5	T6	T7	T8	T9	STIIIa	STIIIb	T11	T12	T13	T14	T15	T16	T17	T20	T21	T22	T23	T24	STIVb	STIVc	T25
HCB	1,15	6,72	2,36	1,72	1,39	-	2,42	0,56	0,82	2,20	-	1,87	0,76	-	1,17	-	-	-	-	-	2,77	0,77	-	2,80	6,70	-	-	-
PCB 17	-	-	2,21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,42	-	-	4,64	-	-	-	-
PCB 18	-	-	0,53	5,96	3,29	-	4,60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 28	-	-	3,73	3,06	2,11	2,26	-	5,27	2,23	8,98	-	2,92	-	-	-	-	-	6,53	7,61	-	4,75	4,71	3,43	3,04	-	-	-	-
PCB 31	-	-	4,48	4,45	3,45	3,43	5,21	2,17	9,20	-	-	2,49	-	-	2,45	2,20	-	-	-	-	-	3,48	-	4,28	-	-	-	-
PCB 33	-	-	1,11	-	2,54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,19	-	4,17	-	-	-	-
PCB 44	0,85	-	1,78	9,89	7,78	9,06	10,45	0,08	-	-	5,97	2,99	-	-	-	3,51	-	-	-	-	5,40	2,54	-	2,68	-	3,90	-	3,58
PCB 49	-	-	1,75	18,07	11,19	12,17	13,42	-	-	-	1,04	0,86	-	-	-	0,52	-	-	-	-	5,98	-	-	1,44	-	-	-	-
PCB 52	9,87	-	-	-	23,42	17,71	-	9,79	6,82	22,51	17,66	9,57	4,07	-	-	6,28	-	-	-	-	14,04	8,22	-	9,51	27,43	13,70	4,21	6,98
PCB 70	-	-	-	12,68	9,06	8,66	11,90	9,31	17,78	-	7,99	4,71	2,92	-	-	4,03	-	-	-	-	7,61	7,27	4,99	4,42	-	5,57	3,37	4,09
PCB 82	0,84	13,02	-	10,42	6,97	8,89	10,26	2,17	-	-	6,38	3,50	0,70	1,38	0,14	2,77	0,10	-	0,84	-	3,47	2,09	0,91	0,99	-	4,61	2,38	3,77
PCB 87	-	-	-	4,08	3,02	4,40	5,45	-	-	-	0,81	0,68	-	-	-	1,53	-	-	-	-	-	-	-	-	-	-	0,56	-
PCB 95	-	16,46	-	20,05	14,45	16,44	22,91	-	-	-	8,47	4,60	0,54	4,86	-	4,53	-	-	3,91	-	8,38	-	2,02	1,37	-	4,61	1,75	3,12
99/101	-	44,43	-	47,13	33,98	41,87	56,63	-	-	-	29,27	13,91	4,19	4,39	0,61	14,27	0,11	-	5,75	-	16,64	-	10,63	7,24	7,80	21,04	10,04	13,68
105/132	15,31	18,03	2,98	10,36	5,41	7,44	8,29	11,75	6,84	30,57	7,40	5,48	2,02	-	-	3,19	3,77	-	-	3,93	5,20	10,28	3,19	3,31	-	7,59	3,79	5,98
PCB 110	3,28	6,56	5,64	6,87	2,35	2,05	3,15	-	1,84	0,22	3,35	1,44	0,86	2,03	1,12	0,98	1,78	9,08	5,70	2,48	2,28	3,93	1,33	2,69	-	1,78	0,48	2,18
PCB 118	-	19,53	-	12,36	5,76	10,09	11,21	-	-	-	5,60	1,55	-	-	1,32	1,58	1,71	0,17	4,60	-	0,46	-	2,49	1,47	-	5,36	3,80	2,65
PCB 128	-	17,93	0,53	-	1,48	1,62	2,28	-	3,61	-	-	-	-	4,70	1,77	-	4,63	6,96	8,82	-	-	-	-	-	-	-	1,24	-
PCB 138	37,76	73,50	2,13	9,78	5,72	9,07	13,33	6,22	7,61	11,82	15,43	6,73	1,69	8,19	2,38	4,87	12,88	8,56	14,94	1,04	3,68	3,71	6,56	2,83	-	15,40	10,35	6,85
PCB 149	14,39	53,59	5,22	15,24	8,40	14,03	17,94	5,51	6,68	10,48	13,85	6,60	2,03	-	0,83	4,44	5,28	0,43	6,01	0,73	5,79	5,01	6,33	5,82	-	11,11	6,12	5,95
PCB 151	1,27	14,41	0,25	6,92	3,50	6,59	4,92	-	0,27	0,41	4,07	2,78	0,20	-	-	0,92	0,90	-	2,42	-	2,22	0,88	1,17	0,88	-	3,31	1,34	-
PCB 153	29,00	72,32	2,73	8,82	5,30	7,71	10,82	9,88	5,19	13,96	13,75	5,41	1,07	7,89	2,25	4,26	12,42	9,72	16,40	1,33	3,71	3,89	5,97	3,47	4,71	13,81	7,86	3,83
156/171	23,26	-	-	-	3,09	-	7,73	8,20	4,33	13,57	9,94	5,04	2,82	7,35	-	2,82	7,02	-	-	-	6,05	14,35	4,48	4,92	-	-	1,46	-
PCB 158	-	6,17	-	-	1,11	1,17	1,72	-	1,14	-	-	-	0,55	-	-	-	-	-	-	-	-	-	1,29	-	-	1,96	1,21	1,14
PCB 169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 170	44,18	56,92	3,01	-	1,55	-	2,93	9,14	-	19,41	5,69	-	0,77	7,81	2,52	2,62	15,34	13,56	11,19	3,61	5,00	6,79	2,40	2,63	-	3,81	2,03	3,84
PCB177	20,69	27,35	1,43	-	1,71	-	-	6,95	5,14	7,74	-	1,64	-	-	-	1,60	4,81	-	-	-	-	-	-	2,67	-	-	-	-
PCB 180	104,09	114,99	8,18	4,65	2,50	3,47	-	-	-	41,18	16,01	-	-	16,41	5,62	4,92	30,23	29,09	21,13	8,34	9,08	-	6,94	-	30,50	11,57	6,12	7,31

TABLE S7 (continuation): Organochlorine compound concentrations in aerosol phase samples given in ng g^{-1}

	T1	T2	T3	STIb	T4	STIIb	T5	T6	T7	T8	T9	STIIIa	STIIIb	T11	T12	T13	T14	T15	T16	T17	T20	T21	T22	T23	T24	STIVb	STIVc	T25
PCB 183	-	14,48	0,74	-	1,44	-	-	-	11,36	-	2,63	1,71	-	-	-	-	3,83	-	-	-	-	-	-	2,23	-	2,02	1,18	-
PCB 191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 194	23,83	42,93	1,10	-	1,80	-	3,04	-	-	-	2,53	1,94	0,77	-	1,43	-	8,35	-	-	-	2,71	8,68	1,80	3,17	12,52	2,43	1,24	2,92
PCB 195	4,99	14,29	-	-	-	-	-	0,17	1,50	-	-	-	-	-	-	-	3,10	-	-	-	-	-	-	-	-	-	-	-
201/199	23,68	26,86	0,31	-	1,86	-	-	6,21	-	-	-	-	-	-	-	1,45	5,06	-	-	-	-	2,56	-	-	-	-	-	-
PCB 205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 208	2,98	-	0,50	-	-	-	-	1,41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,02	-	-
PCB 209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE S8: Detailed concentrations of mono-ortho-substituted PCB congener concentrations in gas phase samples given in pg m^{-3}

	PCB 105	PCB 114	PCB 118	PCB 123	PCB 156	PCB 157	PCB 167	PCB 189
Ti	0.624	0.071	1.528	0.015	0.428	0.039	0.207	0.043
Tii	0.839	0.093	1.916	0.040	0.452	0.057	0.217	0.035
Tiii	0.385	0.049	0.938	0.019	0.325	0.031	0.145	0.040
Tiv	0.380	0.064	0.980	0.036	0.227	0.042	0.104	0.038
Tv	0.436	0.041	1.182	0.020	0.205	0.021	0.092	0.018
Tvi	0.373	0.043	0.954	0.020	0.201	0.020	0.090	0.029
Tvii	0.989	0.142	2.416	0.056	0.374	0.037	0.194	0.040
Tviii	0.693	0.107	1.802	0.038	0.319	0.031	0.168	0.035
Tix	0.681	0.105	1.819	0.053	0.399	0.033	0.183	0.046
Tx	0.674	0.102	1.861	0.037	0.334	0.030	0.173	0.043
Txi	0.608	0.096	1.652	0.029	0.323	0.030	0.176	0.035
Txii	0.401	0.059	1.070	0.016	0.206	0.021	0.099	0.020
Txiii	0.543	0.076	1.407	0.032	0.215	0.021	0.110	0.025
Txiv	1.183	0.098	3.030	0.050	0.421	0.064	0.214	0.026
Txv	0.616	0.061	1.546	0.029	0.281	0.046	0.144	0.022
Txvi	0.454	0.051	1.208	0.021	0.211	0.028	0.108	0.019
Txvii	0.348	0.043	0.976	0.018	0.153	0.021	0.075	0.018
Txviii	0.398	0.047	1.256	0.020	0.159	0.022	0.088	0.016

TABLE S9: Detailed concentrations of mono-ortho-substituted PCB congener concentrations in aerosol samples given in pg m^{-3}

	PCB 105	PCB 114	PCB 118	PCB 123	PCB 156	PCB 157	PCB 167	PCB 189
Ti	0,303	0,021	0,825	0,017	0,184	0,025	0,093	0,025
Tii	0,155	0,018	0,394	0,011	0,176	0,013	0,073	0,029
Tiii	0,039	0,005	0,087	0,001	0,035	0,005	0,013	0,006
Tiv	0,078	0,010	0,216	0,004	0,105	0,011	0,042	0,013
Tv	0,121	0,012	0,276	0,002	0,106	0,012	0,045	0,010
Tvi	0,047	0,005	0,117	0,002	0,046	0,005	0,021	0,007
Tvii	0,064	0,009	0,148	0,002	0,053	0,008	0,023	0,009
Tviii	0,136	0,015	0,338	0,003	0,155	0,014	0,066	0,013
Tix	0,148	0,019	0,363	0,006	0,152	0,018	0,068	0,018
Tx	0,035	0,002	0,087	0,002	0,029	0,005	0,016	0,003
Txi	0,106	0,012	0,284	0,002	0,118	0,013	0,057	0,011
Txii	0,090	0,010	0,221	0,004	0,092	0,009	0,038	0,009
Txiii	0,023	0,002	0,063	0,001	0,022	0,002	0,009	0,003
Txiv	0,024	0,002	0,053	0,001	0,017	0,003	0,007	0,004
Txv	0,018	0,001	0,050	-	0,013	0,004	0,007	0,004
Txvi	0,011	-	0,029	-	0,011	0,002	0,005	0,002
Txvii	0,018	0,002	0,049	0,001	0,017	0,003	0,007	0,006
Txviii	0,023	0,002	0,064	-	0,022	0,004	0,009	0,004

FIGURE S5: Spatial distribution of $\sum_{7ICES}$PCBs in the gas phase samples in pg m^{-3}.

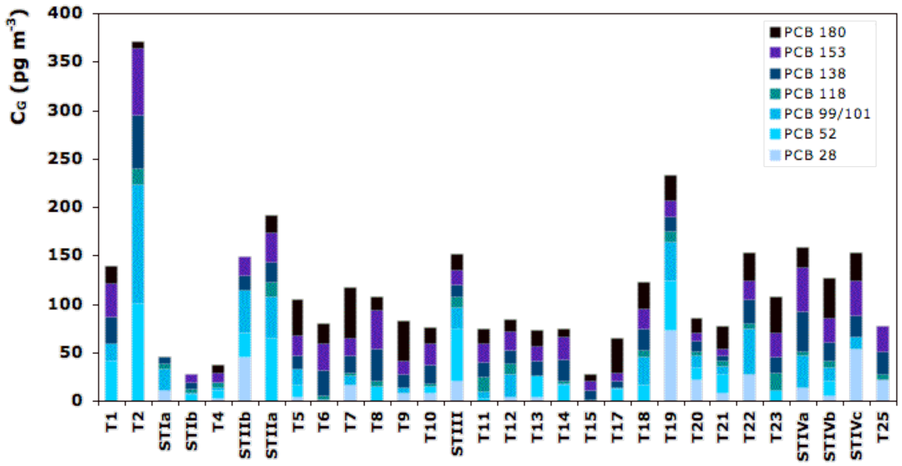


FIGURE S6: Spatial distribution of $\sum_{7ICES}$PCBs in aerosols given in pg m^{-3} (upper panel) and ng g^{-1} (lower panel).

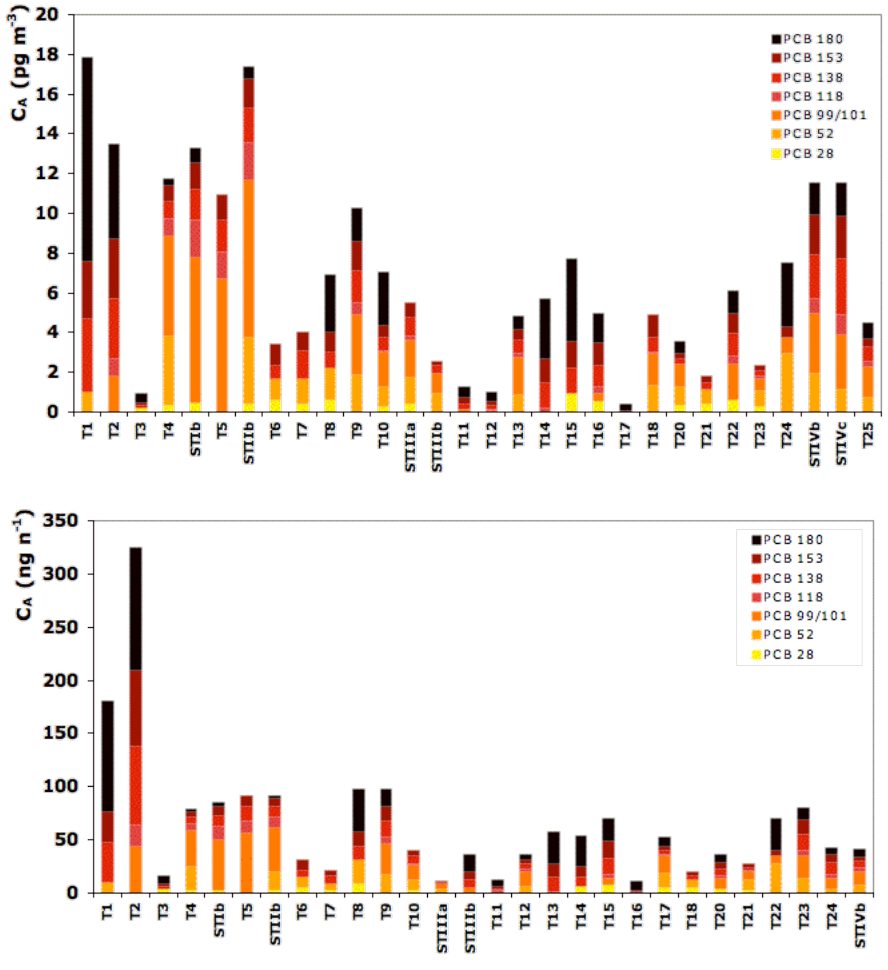


FIGURE S7: Spatial distribution of mono-ortho-substituted PCB congeners in the gas phase samples in pg m^{-3}.

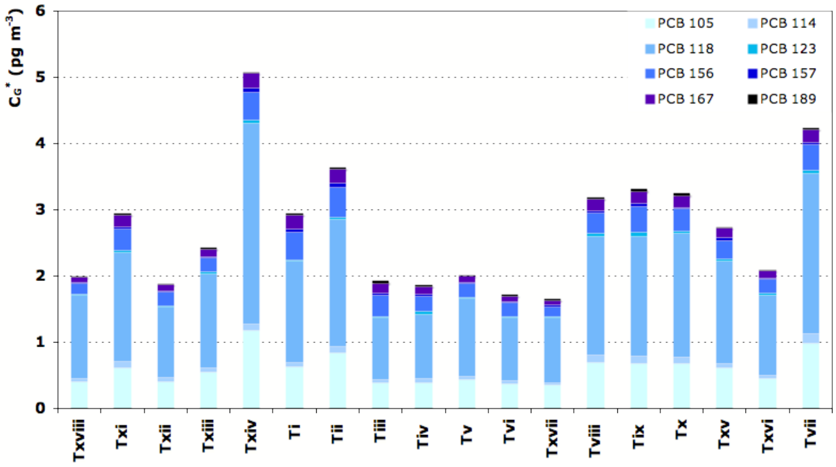


FIGURE S8: Spatial distribution of mono-ortho-substituted PCB congeners in the aerosol samples in pg m^{-3}.

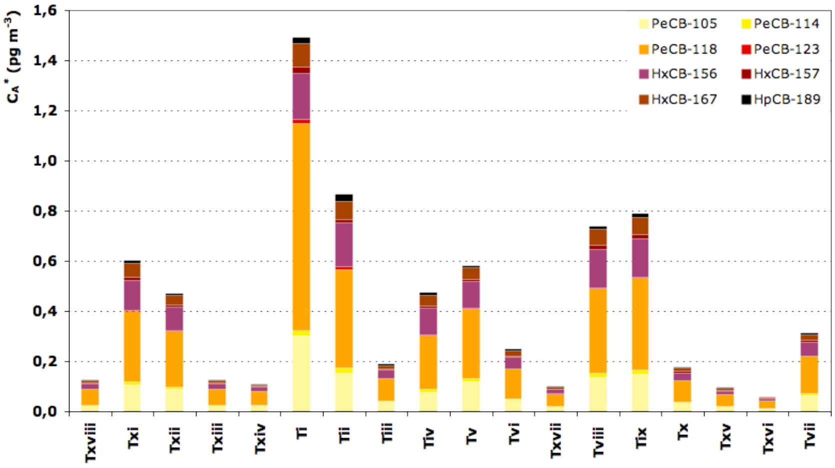
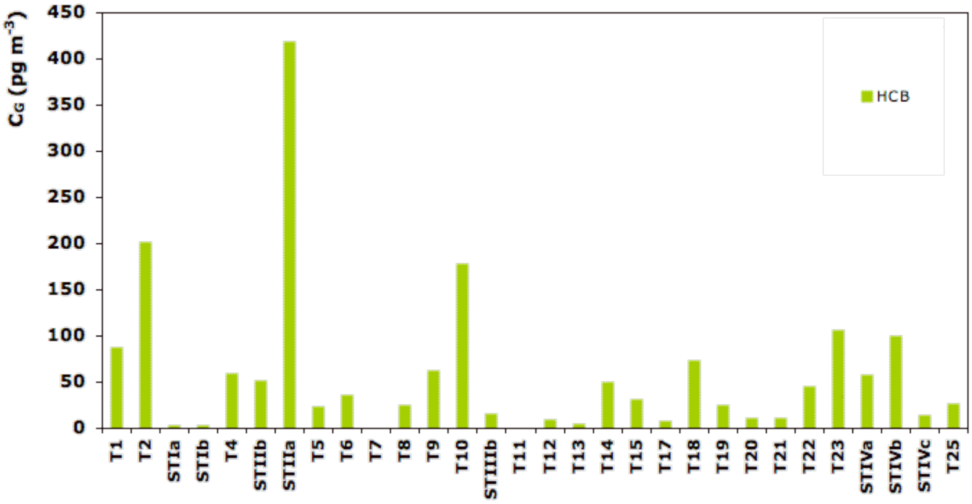


FIGURE S9: Spatial distribution of HCB isomers in the gas phase samples in pg m^{-3}



SUPPLEMENT E: AEROSOL BULK COMPOSITION AND AEROSOL-GAS PARTITIONING OF PCB AND HCB

TEXT: PCA analysis for aerosol samples

TABLE S10: Summarize of component loadings (correlations between PCBs and principal component) for aerosol samples.

FIGURE S10: Principal component plot for aerosol phase samples made using normalized volumetric concentrations (pg m^{-3}),

FIGURE S11: Principal component plot for aerosol phase samples generated with particle-normalized concentrations (in ng g^{-1})

FIGURE S12: Dust loadings and dust concentrations

FIGURE S13: Aerosol-particle partitioning of PCBs and HCB. Log-log relationship between aerosol-gas partition coefficient (K_P) and octanol-air partitioning coefficient (K_{OA}) for PCBs and HCB. K_{OA} values where corrected for temperature.

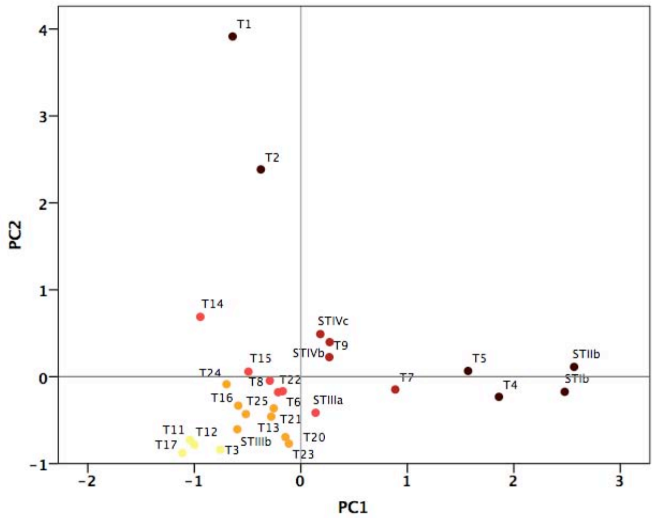
TEXT: PCA analysis for aerosol samples

Principal Component Analysis (PCA) has been used to detect relationships among the quantified variables. PCA has been performed on normalized (subtraction of mean and division by standard deviation) data using statistical software (SPSS 13.0). Principal Components (PC) are formed by linear combinations of the original variables taken as orthogonal to one another. The first factor (PC1) accounts for the maximum amount of variance and subsequent factors successively explain smaller quantities of the original variance.

TABLE S10: Summary of component loadings (correlations between PCBs and principal component) for aerosol samples.

	Component	
	1	2
suma 3cl	0.667	-0.072
suma 4cl	0.868	0.206
suma 5cl	0.864	0.330
suma 6cl	0.257	0.911
suma 7 cl	-0.485	0.824
suma <8cl	-0.447	0.826
tsp	0.590	0.196
Tº	0.680	0.004

FIGURE S10: Principal component plot for aerosol phase samples made using normalized volumetric concentrations (pg m^{-3}),



The first axis (PC1) explains the maximum amount of variation within the data set (41%) while PC2 explains 30% of the original variance. For gas phase samples, PC1 seems to separate between those samples with higher amount of less chlorinated compounds (congeners with 4 and 5 chlorine atoms). The concentration of 3 chlorinated congeners and the temperature variations seem to have also some influence in this PC. Conversely, PC2 separates samples by the presence of high chlorinated PCBs (congeners with 6, 7 and 8 chorine atoms).

FIGURE S11: Principal component plot for aerosol phase samples generated with particle-normalized concentrations (in ng g^{-1})

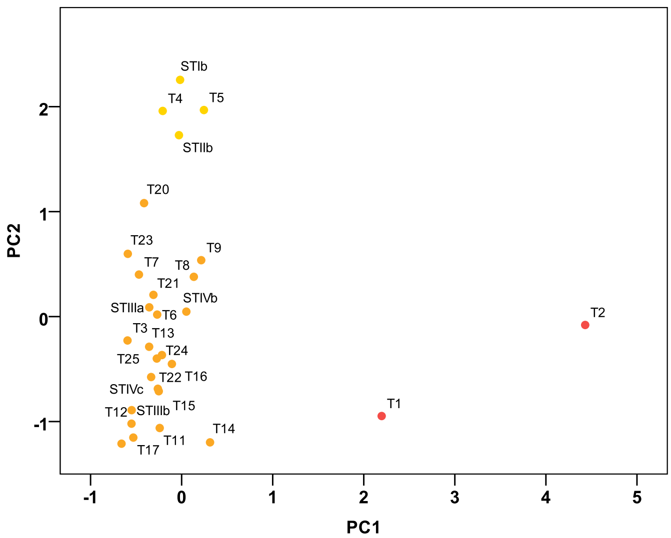
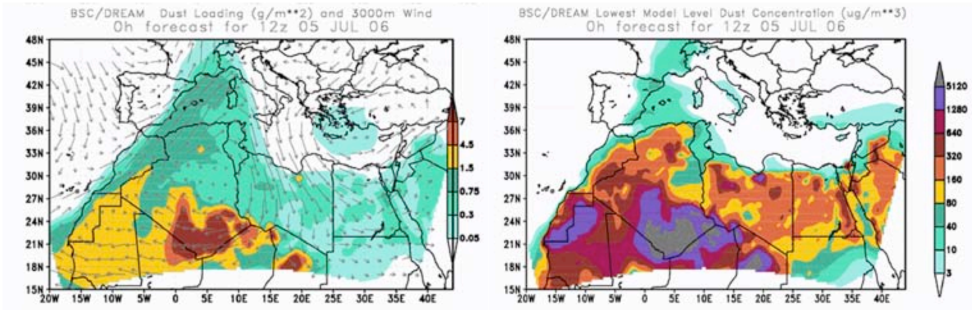
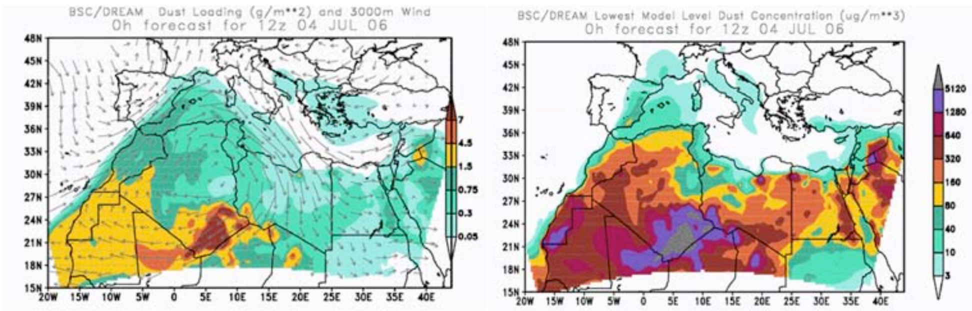


FIGURE S12: Dust loadings and dust concentrations. Samples subjected to dust intrusions (ST1b, T4, STIIb and T5). T2 and T6 are two examples of samples not affected by Saharan dust loadings.

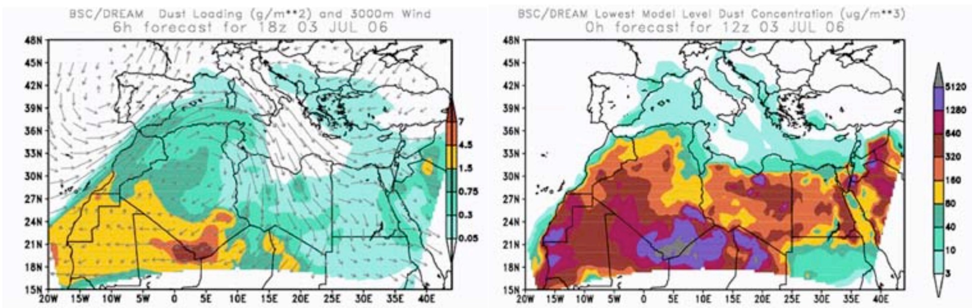
SAMPLE STIb



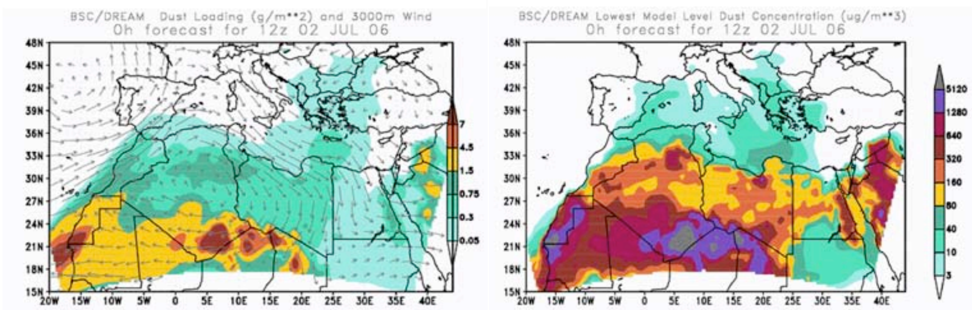
SAMPLE T4



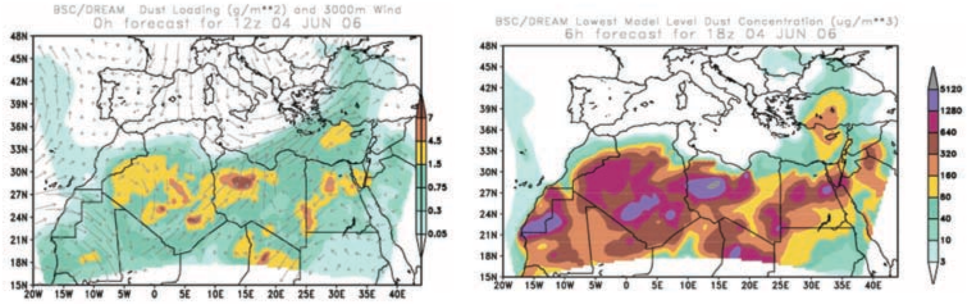
SAMPLE STIIb



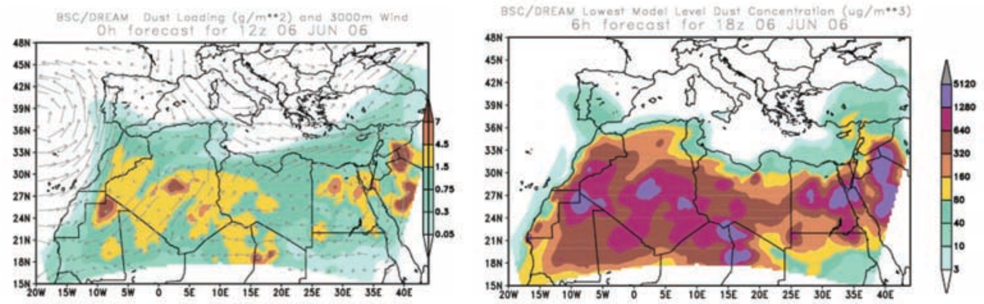
SAMPLE T5



SAMPLE T3

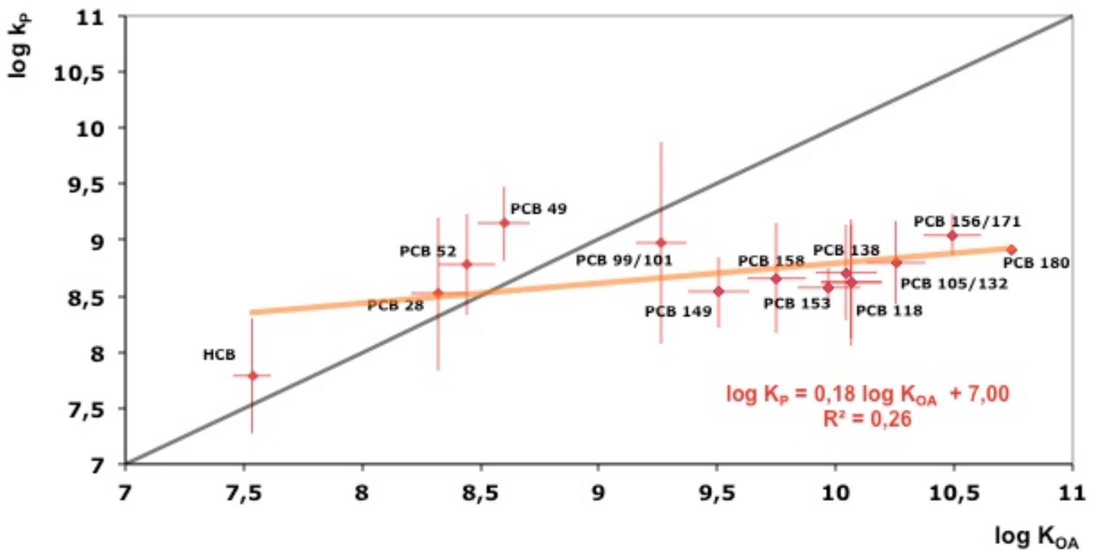


SAMPLE T6



Source: http://www.bsc.es/earth-sciences/mineral-dust-forecast-system/bsc-dream8bforecast/north-africa-europe-and-middle-ea-0

FIGURE S13: Aerosol-particle partitioning of PCBs and HCB. Log-log relationship between aerosol-gas partition coefficient (K_P) and octanol-air partitioning coefficient (K_{OA}) for PCBs and HCB. K_{OA} values where corrected for temperature.



SUPPLEMENT F: FACTORS AFFECTING OCL OCCURRENCE IN MEDITERRANEAN MARINE ATMOSPHERIC ENVIRONMENT

TEXT: PCA analysis for gas phase samples

TABLE S11: Summary of component loadings (correlations between PCBs and principal component) for gas phase samples.

FIGURE S14: Principal component plot for gas phase samples generated using normalized data in pg m^{-3}

TEXT: Clausius-Clapeyron equation

TEXT: atmospheric resident times

TABLE S12: Dry deposition fluxes per sample in ng m^{-2} d^{-1}

TABLE S13: detailed air-water fugacity ratios

FIGURE S15: Box-plot of the air-water fugacity ratios for the individual PCB congeners

TABLE S14: Detailed net diffusive air-water net exchange flux in ng m^{-2} d^{-1}

FIGURE S16: Plankton biomass in mg L^{-1} vs atmospheric gas phase concentrations in pg m^{-3} for four PCB congeners. For the time periods with the higher plankton biomass, the gas phase concentrations were at the lower end of those observed.

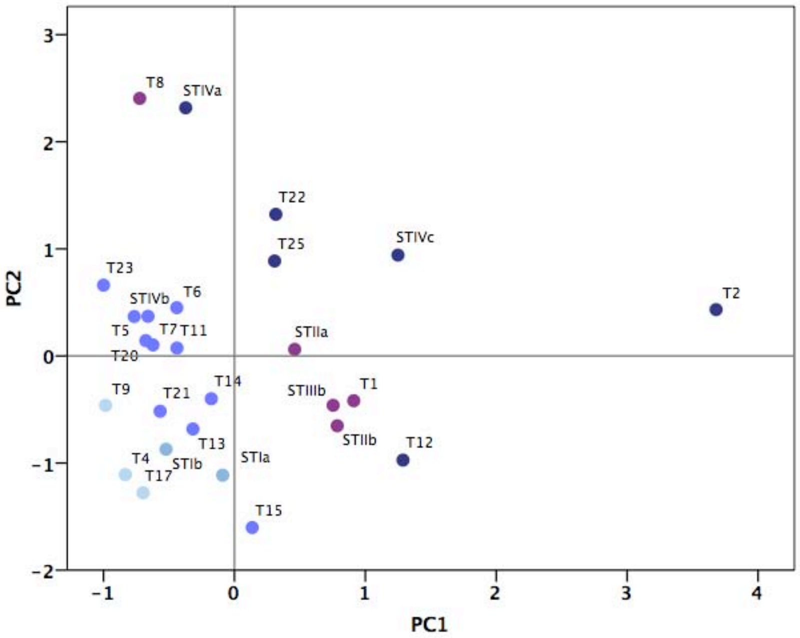
TEXT: PCA analysis for gas phase samples

Principal Component Analysis (PCA) has been used to detect relationships among the quantified variables. PCA has been performed on normalized (subtraction of mean and division by standard deviation) data using statistical software (SPSS 13.0). Principal Components (PC) are formed by linear combinations of the original variables taken as orthogonal to one another. The first factor (PC1) accounts for the maximum amount of variance and subsequent factors successively explain smaller quantities of the original variance.

TABLE S11: Summary of component loadings (correlations between PCBs and principal component) for gas phase samples.

	Component		
	1	2	3
suma 3cl	0.725	0.022	0.188
suma 4cl	0.792	-0.04	0.161
suma 5cl	0.787	0.295	-0.029
suma 6cl	0.597	0.626	-0.272
suma 7 cl	0.260	0.910	-0.232
suma <8cl	-0.212	0.709	0.597
tsp	0.129	-0.217	0.700
Tº	0.146	0.011	0.764

FIGURE S14: Principal component plot for gas phase samples generated using normalized data in pg m^{-3}



The two first principal components (PC1 and PC2), explaining 35% and 23% of the variability respectively, separate samples in a gradient of concentrations. Samples T4, T9, T17 and STI show the lowest C_G for Σ_{41}PCB, while T2, T22, T25, STV and T12 where those samples with the highest C_G. A third PC of the analysis explaining the 15% of the variation of the samples was highly influenced by the temperature and the total amount of particles present for each sampling period.

TEXT: Clausius-Clapeyron equation

The partial pressure (P) of a semivolatile compound in air is related to the enthalpy of air-surface exchange (ΔHa-w) by the Clausius-Clapeyron equation:

$$\ln P = \frac{\Delta H_{A-W}}{R}\left(\frac{1}{T}\right) + const$$

where P is the partial pressure of the compound (Pa), $\Delta H_{a\text{-}w}$ is a environmental phase-transition energy of the compound (kJ mol^{-1}), R is the gas constant ($8.314 \cdot 10^{-3}$ Pa m^3 mol^{-1} = $kJmol^{-1}$) and T is the temperature (K). Partial pressures of each individual PCB were calculated from measured gas phase concentrations. The Clausius-Clapeyron equation can be expressed graphically as plot of ln P vs 1/T. In this study, the temperature did not affect significantly the concentrations of all OCl studied.

	Slope (*m*)	**R^2**	***p***
HCB	1213	0.002	> 0.05
PCB 17	-11781	0,302	> 0.05
PCB 18	-9569	0,550	> 0.05
PCB 28	-2983	0,018	> 0.05
PCB 33	-18520	0,441	> 0.05
PCB 49	-13208	0,209	> 0.05
PCB 52	2611	0,06	> 0.05
PCB 74	1087	0,02	> 0.05
PCB 75	-1752	0,07	> 0.05
PCB 82	-13227	0,065	> 0.05
PCB87	20114	0,158	> 0.05
PCB 99/101	-21065	0,051	> 0.05
PCB 105/132	-16385	0,228	> 0.05
PCB 128	-25390	0,302	> 0.05
PCB 138	-27058	0,694	> 0.05
PCB 149	-42915	0,896	>0.05
PCB 151	-25484	0,135	> 0.05
PCB 153	-2957	0,017	> 0.05
PCB 177	-2642	0,011	> 0.05
PCB 180	5127	0,053	> 0.05
PCB 183	-5155	0,05	> 0.05
PCB 187	3809	0,041	> 0.05
PCB 191	-1544	0,005	> 0.05
PCB 194	-4066	0,017	> 0.05
PCB 199/201	-1210	0,004	> 0.05

TEXT: atmospheric resident times

According to equation (5) of the main text, the atmospheric resident times (R, d) could be calculated as follows:

$$R = \frac{C_{TOTAL}}{F_{OH} + F_{DD} + F_{WD} + F_{AWdep} - F_{AWvol}} \cdot AML \qquad (5)$$

where C_{TOTAL} is the total concentration of POPs in the atmosphere (gas and aerosol phase), AML is the considered atmospheric mixed layer height, and F_{OH}, F_{DD}, F_{WD}, F_{AWdep} and F_{AWvol} are the atmospheric OH degradation flux, atmospheric dry deposition flux, atmospheric wet deposition flux, diffusive deposition flux and diffusive volatilization flux, respectively (ng m^{-2} d^{-1}). Wet deposition was in this case not considered due to lack of rainfall events during the sampling cruise. F_{DD} was calculated following equation (1) from the main text, whereas F_{OH}, F_{AWdep} and F_{AWvol} were parametrized as follows:

$$F_{OH} = \left(1 - \varnothing\right) \cdot C_{TOTAL} \cdot r_{OH} \cdot AML \qquad (F1)$$

$$F_{AWdep} = k_{AW} \frac{\left(1 - \varnothing\right) \cdot C_{TOTAL}}{H'} \qquad (F2)$$

$$F_{AWvol} = \left(k_{AW} - k_{ADW}\right) \cdot \frac{\left(1 - \varnothing\right) \cdot C_{TOTAL}}{H'} \qquad (F3)$$

where Ø is the fraction of OCl bound to the aerosols in the atmosphere, r_{OH} is the compound specific OH radical degradation decay rate (d^{-1}) calculated following equation (7) of the main text and k_{ADW} is the air-deep water mass transfer coefficient estimated as reported elsewhere (Dachs et al., 2002).

Equation (6) from the main text could be derived from equations (5), (1), (F1), (F2) and (F3).

TABLE S12: Dry deposition fluxes per sample in ng m^{-2} d^{-1}

SAMPLE	T1	T2	T3	T4	STIb	T5	STIIb	T6	T7	T8	T9	T10	STIIIa	STIIIb	T11	T12	T13	T14	T15	T16	T17	T18	T20	T21	T22	T23	T24	STIVb	STIVc	T25
VOL (m3)	379	282	441	490	300	353	330	305	262	230	359	447	448	304	947	950	814	414	139	307	848	493	567	679	304	576	373	294	328	371
WEIGHT (g)	0,0375	0,0117	0,0246	0,0732	0,0465	0,042	0,0623	0,0338	0,0481	0,0162	0,0377	-	0,0615	0,071	0,0327	0,0785	0,109	0,041	0,0199	0,0217	0,0314	-	0,0383	0,0608	0,0517	0,0494	0,0399	0,042	0,0892	0,0406
mg/m3	0,099	0,041	0,056	0,149	0,155	0,119	0,189	0,111	0,184	0,070	0,105	-	0,137	0,234	0,035	0,083	0,134	0,099	0,143	0,071	0,037	-	0,068	0,090	0,170	0,086	0,107	0,143	0,272	0,109
HCB	0,020	0,048	0,023	0,036	0,046	0,050	-	0,011	0,026	0,027	-	0,032	0,044	0,031	-	0,017	-	-	-	-	-	0,048	0,032	0,012	-	0,041	0,124	-	-	-
PCB 17	-	-	0,021	-	-	-	-	-	-	-	-	0,101	-	-	-	-	-	-	-	-	-	-	0,098	-	-	0,069	-	-	-	-
PCB 18	-	-	0,005	0,085	0,160	0,095	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 28	-	-	0,036	0,054	0,082	-	0,074	0,101	0,071	0,109	-	0,050	0,069	-	-	-	-	-	0,162	0,093	-	-	0,055	0,073	0,101	0,045	-	-	-	-
PCB 31	-	-	0,043	0,089	0,119	0,107	0,112	0,042	0,292	-	-	-	0,059	-	-	0,035	0,051	-	-	-	-	-	-	0,054	-	0,063	-	-	-	-
PCB 33	-	-	0,011	0,066	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,034	-	0,062	-	-	-	-
PCB 44	0,015	-	0,017	0,201	0,265	0,215	0,295	0,001	-	-	0,108	0,064	0,071	-	-	-	0,081	-	-	-	-	-	0,063	0,039	-	0,040	-	0,096	-	0,068
PCB 49	-	-	0,017	0,289	0,484	0,276	0,397	-	-	-	0,019	0,077	0,020	-	-	-	0,012	-	-	-	-	-	0,070	-	-	0,021	-	-	-	-
PCB 52	0,169	-	-	0,605	-	-	0,578	0,188	0,216	0,274	0,321	0,174	0,227	0,164	-	-	0,145	-	-	-	-	0,232	0,164	0,127	-	0,141	0,507	0,338	0,198	0,132
PCB 70	-	-	-	0,234	0,340	0,245	0,282	0,178	0,564	-	0,145	0,091	0,112	0,118	-	-	0,093	-	-	-	-	0,089	0,089	0,113	0,147	0,066	-	0,138	0,158	0,077
PCB 82	0,014	0,093	-	0,180	0,279	0,211	0,290	0,042	-	-	0,116	0,049	0,083	0,028	0,008	0,002	0,064	0,002	-	0,010	-	-	0,041	0,032	0,027	0,015	-	0,114	0,112	0,071
PCB 87	-	-	-	0,078	0,109	0,112	0,143	-	-	-	0,015	-	0,016	-	-	-	0,035	-	-	-	-	0,009	-	-	-	-	-	-	0,026	-
99/101	-	0,319	-	0,877	1,262	1,164	1,366	-	-	-	0,531	0,297	0,330	0,169	0,026	0,009	0,330	0,002	-	0,070	-	0,284	0,194	-	0,312	0,107	0,144	0,519	0,472	0,259
PCB 95	-	0,118	-	0,373	0,537	0,471	0,536	-	-	-	0,154	0,112	0,109	0,022	0,029	-	0,105	-	-	0,048	-	0,049	0,098	-	0,059	0,020	-	0,114	0,082	0,059
105/132	0,262	0,129	0,029	0,140	0,277	0,171	0,243	0,225	0,217	0,372	0,134	0,089	0,130	0,081	-	-	0,074	0,065	-	-	0,025	-	0,061	0,159	0,094	0,049	-	0,187	0,178	0,113
PCB 110	0,056	0,047	0,054	0,061	0,184	0,065	0,067	-	0,058	0,003	0,061	0,042	0,034	0,035	0,012	0,016	0,023	0,030	0,225	0,070	0,016	0,039	0,027	0,061	0,039	0,040	-	0,044	0,023	0,041
PCB 118	-	0,140	-	0,149	0,331	0,230	0,329	-	-	-	0,102	0,017	0,037	-	-	0,019	0,037	0,029	0,004	0,056	-	0,011	0,005	-	0,073	0,022	-	0,132	0,179	0,050
PCB 128	-	0,129	0,005	0,038	-	0,047	0,053	-	0,115	-	-	-	-	-	0,028	0,025	-	0,079	0,172	0,108	-	-	-	-	-	-	-	-	0,058	-
PCB 138	0,646	0,527	0,020	0,148	0,262	0,274	0,296	0,119	0,241	0,144	0,280	0,111	0,160	0,068	0,049	0,034	0,113	0,220	0,212	0,183	0,007	0,121	0,043	0,057	0,193	0,042	-	0,380	0,487	0,130
PCB 149	0,246	0,384	0,050	0,217	0,408	0,369	0,458	0,106	0,212	0,128	0,251	0,100	0,157	0,082	-	0,012	0,103	0,090	0,011	0,073	0,005	0,159	0,068	0,078	0,186	0,086	-	0,274	0,288	0,113
PCB 151	0,022	0,103	0,002	0,090	0,185	0,101	0,215	-	0,009	0,005	0,074	0,035	0,066	0,008	-	-	0,021	0,015	-	0,030	-	0,050	0,026	0,014	0,034	0,013	-	0,082	0,063	-
PCB 153	0,496	0,518	0,026	0,137	0,236	0,222	0,251	0,189	0,165	0,170	0,249	0,100	0,128	0,043	0,047	0,032	0,099	0,212	0,240	0,200	0,009	0,196	0,043	0,060	0,175	0,051	0,087	0,341	0,369	0,073
156/171	0,398	-	-	0,080	-	0,159	-	0,157	0,137	0,165	0,180	-	0,120	0,114	0,044	-	0,065	0,120	-	-	-	0,106	0,071	0,222	0,132	0,073	-	-	0,069	-

PCB 158	-	0,044	-	0,029	-	0,035	0,038	-	0,036	-	-	-	-	0,022	-	-	-	-	-	-	-	-	-	-	0,038	-	-	0,048	0,057	0,022
PCB 169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 170	0,755	0,408	0,029	0,040	-	0,060	-	0,175	-	0,236	0,103	0,253	-	0,031	0,047	0,036	0,061	0,263	0,335	0,137	0,023	0,149	0,058	0,105	0,071	0,039	-	0,094	0,095	0,073
PCB 177	0,354	0,196	0,014	0,044	-	-	-	0,133	0,163	0,094	-	0,053	0,039	-	-	-	0,037	0,082	-	-	-	0,056	-	-	-	0,040	-	-	-	-
PCB 180	1,780	0,824	0,079	0,065	0,125	-	0,113	-	-	0,501	0,291	0,470	-	-	0,098	0,080	0,114	0,517	0,720	0,258	0,053	-	0,106	-	0,204	-	0,564	0,286	0,287	0,138
PCB 183	-	0,104	0,007	0,037	-	-	-	-	0,360	-	0,048	-	0,041	-	-	-	-	0,066	-	-	-	0,055	-	-	-	0,033	-	0,050	0,055	-
PCB 187	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 191	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 194	0,407	0,308	0,011	0,047	-	0,062	-	-	-	-	0,046	0,155	0,046	0,031	-	0,020	-	0,143	-	-	-	0,196	0,032	0,134	0,053	0,047	0,231	0,060	0,058	0,055
PCB 195	0,085	0,102	-	-	-	-	-	0,003	0,048	-	-	0,056	-	-	-	-	-	0,053	-	-	-	0,034	-	-	-	-	-	-	-	-
199/201	0,405	0,193	0,003	0,048	-	-	-	0,119	-	-	-	0,146	-	-	-	-	0,033	0,087	-	-	-	0,134	-	0,040	-	-	-	-	-	-
PCB 205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 206	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 208	0,051	-	0,005	-	-	-	-	0,027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,050	-	-
PCB 209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE S13: Detailed air-water fugacity ratios

	T2	T4	STIIb	T6	T7	T8	T9	T10	STIIIb	T11	T12	T13-T14	T15	T17	T18	T19	T20	T21	T22	T23	STIVa	STIVb	STIVc	T25
HCB	-	1,45	3,11	2,39	-	0,75	1,68	4,13	0,44	-	4,17	-	-	-	1,95	1,13	0,28	0,50	1,03	4,67	3,20	4,02	0,54	0,29
PCB17	-	-	-	-	4,47	-	-	-	1,62	-	-	-	-	-	256,10	-	293,08	-	-	-	6,32	0,02	14,14	0,84
PCB18	-	-	-	2,96	-	-	0,44	1,82	-	-	-	-	-	-	1,72	8,85	2,45	7,92	3,21	-	1,35	-	20,78	3,86
PCB28	-	0,38	-	0,08	7,45	-	2,18	1,63	2,79	-	-	-	-	-	-	7,65	4,32	0,92	4,59	-	0,56	1,65	14,66	3,45
PCB33	-	-	-	0,70	-	-	-	-	14,76	-	-	-	-	-	21,86	20,37	18,62	8,03	74,08	11,87	-	-	-	-
PCB49	-	-	7,72	-	-	-	-	-	-	-	-	-	-	-	2,14	1,33	0,39	-	3,43	0,04	-	-	-	4,34
PCB52	-	0,54	0,92	-	-	1,27	-	0,40	1,23	-	-	-	-	-	1,10	2,30	0,79	0,86	-	0,48	-	0,86	-	-
PCB 82	-	0,68	2,78	1,18	5,82	7,31	-	11,98	-	-	0,08	-	-	-	3,10	2,57	2,09	0,29	7,01	-	2,18	0,96	12,80	1,18
PCB87	-	-	-	-	1,50	-	-	-	-	14,22	22,63	-	0,20	-	0,37	0,58	0,41	-	0,25	-	0,68	-	-	-
99/101	-	0,05	0,34	-	0,26	0,01	0,14	-	0,10	0,11	0,40	0,02	0,00	0,11	0,89	0,52	0,36	0,09	1,17	-	0,33	0,20	0,19	-
105/132	-	-	-	1,21	1,04	1,50	-	-	-	1,79	1,34	7,65	-	-	-	1,48	0,62	0,65	1,33	-	2,15	2,24	-	1,32
PCB 110	-	0,24	0,58	0,50	1,26	1,62	0,65	1,02	0,77	0,30	0,46	0,15	0,03	-	-	2,22	0,88	2,75	1,48	0,45	0,62	0,37	0,81	0,34
PCB 118	2,04	0,05	-	0,18	0,22	0,33	-	0,04	0,09	1,46	1,23	0,09	0,03	-	0,29	0,24	0,18	0,12	0,21	0,39	0,14	0,24	-	0,12
PCB 128	-	-	-	7,10	-	8,87	-	1,11	-	0,59	1,27	3,26	-	-	1,69	-	3,25	-	-	-	16,39	-	8,74	-
PCB 138	-	0,04	0,42	1,64	1,04	1,77	0,61	0,78	0,15	0,15	0,15	0,92	0,29	7,12	1,15	0,60	0,52	0,22	1,01	0,64	1,71	0,90	0,97	0,80
PCB 149	-	0,19	0,82	0,94	0,73	1,28	0,37	0,36	0,25	0,10	0,16	1,18	0,54	13,93	1,14	0,50	0,41	0,27	0,91	-	2,26	1,16	0,77	0,74
PCB 151	-	-	-	-	1,65	-	0,00	0,24	0,11	-	0,03	-	-	-	0,52	0,50	-	0,03	0,69	-	0,32	-	0,25	0,04
PCB 153	-	0,20	0,70	1,14	0,67	1,29	0,43	0,54	0,11	0,11	0,11	1,98	1,00	-	-	0,40	-	0,16	-	0,58	1,11	0,67	0,98	0,59
156/171	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,68	-	-		-	-	-
PCB 158	-	-	-	-	-	1,22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,00	-	0,60	0,32
PCB 170	-	0,28	2,82	0,54	-	-	0,43	1,69	0,94	0,05	0,04	2,52	0,48	-	2,46	1,25	1,99	0,62	2,24	1,28	1,51	2,77	4,89	2,23
PCB 177	-	3,01	-	8,41	5,77	13,26	1,04	1,67	-	0,05	0,04		-	-	3,50	1,81	3,14	2,12	4,93	5,16	18,37	7,24	14,09	20,19
PCB 180	-	-	2,13	2,75	0,84	1,96	0,72	1,71	0,43	0,03	0,03	0,92	0,35	2,52	3,11	1,87	2,16	1,05	1,64	1,94	1,96	1,22	2,41	1,29
PCB 183	-	-	-	3,29	1,72	3,56	0,70	1,08	0,21	0,05	0,05		-	-	2,23	0,92	1,50	0,86	2,17	1,21	2,59	1,38	2,01	0,88
PCB 187	-	0,04	0,29	1,06	0,96	1,74	0,39	0,60	0,17	0,04	0,05	0,41	0,09	0,49	0,51	0,72	0,32	0,37	0,53	0,94	1,15		1,19	0,62
PCB 191	-	-	-	-	-	-	-	-	-	0,48	0,40	-	-	-	-	-	-	-	-	-	-	-	-	-

FIGURE S15: Box-plot of the air-water fugacity ratios for the individual PCB congeners

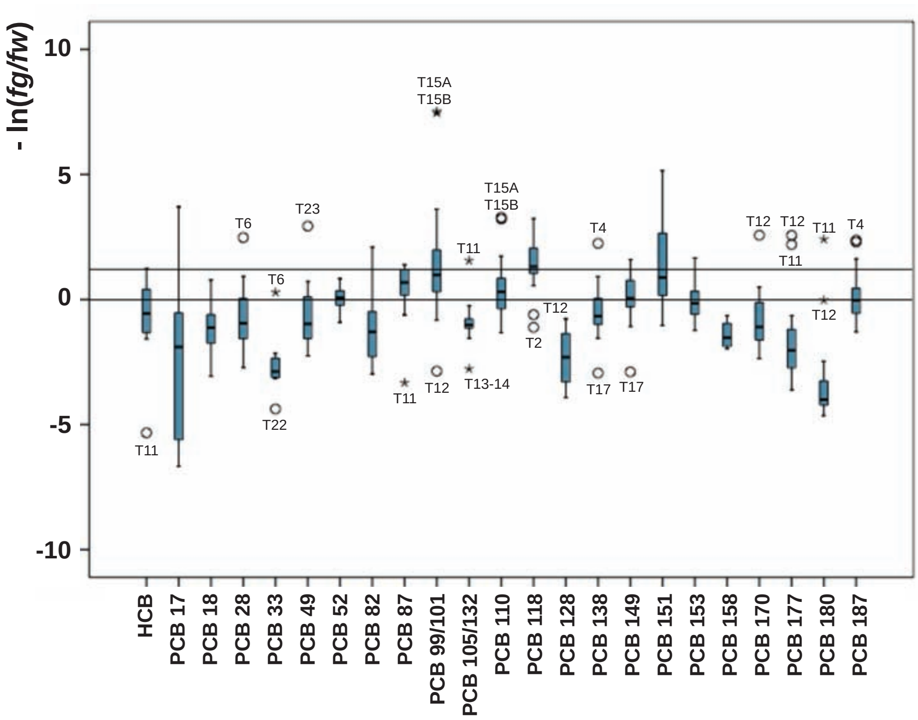


TABLE S14: Detailed net diffusive air-water exchange flux in ng m^{-2} d^{-1}

SAMPLE	T2	T4	STIIb	T6	T7	T8	T9	T10	STIIIb	T11	T12	T13-T14	T15A	T15B	T17	T18	T19	T20	T21	T22	T23	STIVa	STIVb	STIVc	T25
HCB	-7,09	-0,43	-0,83	-0,67	-	0,24	-0,76	-3,74	0,48	-	-0,60	-0,52	-2,13	-0,22	-0,21	-1,05	-0,09	0,80	0,34	-0,04	-2,50	-1,09	-2,05	0,31	1,96
PCB17	-0,23	-0,04	-2,28	-0,67	-0,15	-	-0,08	-0,91	-0,25	-	-4,51	-0,22	-2,43	-0,31	-	-0,31	-0,91	-0,36	-0,41	-0,98	-	-1,19	0,42	-5,72	0,09
PCB 18	-4,75	-	-1,29	-0,59	-0,09	-	0,15	-0,24	-1,26	-0,40	-32,92	-0,21	-17,47	-2,06	-	-0,19	-1,04	-0,39	-0,92	-0,64	-	-0,15	-	-2,64	-0,82
PCB 28	-	0,20	-2,16	0,65	-0,93	-	-0,30	-0,17	-0,62	-	-0,59	-0,08	-	-	-	-	-3,91	-0,99	0,05	-1,14	0,00	0,63	-0,13	-2,73	-1,00
PCB 33	-5,30	-0,74	-3,35	0,37	-0,86	-0,96	-	-0,67	-2,87	-0,56	-	-0,36	-	-	-	-0,96	-1,86	-0,83	-0,68	-3,67	-1,06	-	-0,89	-	-7,25
PCB 49	-1,79	-0,20	-0,59	-	-0,24	-	-0,15	-0,75	-2,05	-	-1,58	-0,23	-	-	-	-0,52	-0,41	0,28	-	-1,19	1,20	-	-	-0,70	-1,59
PCB 52	-8,08	0,37	0,12	-	-	-0,22	-	0,64	-0,55	-0,11	-	-0,83	-	-	-0,86	-0,10	-2,00	0,21	0,22	-	0,80	-	0,15	0,00	-
PCB 82	-1,05	0,16	-0,88	-0,10	-1,21	-1,66	-	-5,66	-	-	0,96	-	-	-	-	-0,60	-1,62	-0,32	0,74	-1,87	-	-0,94	0,03	-8,17	-0,14
PCB 87	-	-	-	-	-0,13	-	-	-	-	-2,31	-14,93	-	1,12	0,12	-	0,19	0,22	0,18	0,00	0,25	-	0,20	-	-	-
PCB 99/101	-6,21	2,02	2,86	-	1,10	1,52	1,48	-	7,14	1,58	4,55	1,13	7,21	0,73	0,41	0,15	1,60	0,89	3,06	-0,25	-	2,59	2,06	2,10	-
PCB 105/132	-8,68	-	-	-0,09	-0,01	-0,14	-	-	-	-0,71	-1,19	-1,20	-3,18	-0,38	-1,30	-	-0,18	0,20	0,13	-0,18	-	-0,50	-0,31	-	-0,18
PCB 110	-	0,32	0,35	0,22	-0,08	-0,19	0,15	-0,01	0,19	0,18	0,54	0,21	8,47	0,94	-	-	-0,73	0,08	-1,06	-0,32	0,33	0,65	0,62	0,19	1,12
PCB 118	-0,39	2,68	-	0,85	0,48	0,43	-	2,16	3,57	-0,12	-0,25	0,41	3,31	0,33	-	0,68	1,43	0,80	1,65	0,81	1,16	0,86	0,87	-	1,66
PCB 128	-	-	-	-0,24	0,00	-0,35	-	-0,01	-	0,05	-0,13	-0,04	-0,09	-0,01	-0,05	-0,04	-	-0,14	-	-	-	-0,25	-	-0,24	-0,47
PCB 138	-2,90	0,99	0,69	-0,48	-0,03	-0,64	0,37	0,22	2,36	2,40	10,11	0,05	2,24	0,22	-0,28	-0,13	0,46	0,41	0,91	-0,01	0,42	-0,70	0,09	0,02	0,26
PCB 149	-5,10	1,35	0,15	0,07	0,23	-0,25	0,91	0,98	2,18	2,64	10,48	-0,08	1,26	0,12	-0,29	-0,14	0,66	0,62	0,98	0,10	-	-1,26	-0,14	0,21	0,33
PCB 151	-0,31	-	-0,05	-	-0,17	-	0,33	0,27	1,25	-	5,64	-	-	-	-	0,14	0,75	0,00	1,47	0,10	-	0,46	-	0,37	0,61
PCB 153	-2,27	0,77	0,18	-0,10	0,27	-0,25	0,57	0,49	2,58	2,86	12,85	-0,16	0,00	0,00	-0,21	-0,58	0,71	-0,22	1,00	-0,49	0,50	-0,11	0,29	0,02	0,53
PCB 156/191	-	-	-	-	-	-0,39	-	-	-	-	-	-	-	-	-	-	-	-	0,11	-	-	-	-	-	-
PCB 158	-	-	-0,12	-	-	-0,03	-	-	-	-	-0,21	-0,02	-	-	-0,01	-	-	-	-	-	-	0,00	-	0,05	0,14
PCB 169	-	-	-	-1,38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB 170	-0,08	0,11	-0,08	0,16	-0,21	-0,49	0,12	-0,16	0,01	1,83	8,36	-0,04	0,14	0,01	-0,05	-0,19	-0,06	-0,13	0,09	-0,17	-0,07	-0,10	-0,12	-0,28	-0,23
PCB 177	-0,29	-0,03	-0,09	-0,28	-0,13	-0,34	-0,01	-0,10	-	1,35	6,18	-0,05	-0,13	-0,01	-0,04	-0,12	-0,03	-0,11	-0,05	-0,21	-0,18	-0,24	-0,12	-0,25	-0,26
PCB 180	-0,36	-	-0,06	-0,41	0,07	-0,42	0,10	-0,26	0,29	5,12	23,95	0,01	0,60	0,05	-0,07	-0,40	-0,22	-0,22	-0,01	-0,13	-0,24	-0,27	-0,06	-0,36	-0,11
PCB 183	-0,37	-	-0,07	-0,09	-0,03	-0,10	0,02	-0,01	0,11	1,08	5,09	-0,04	-0,05	-0,01	-0,03	-0,04	0,00	-0,02	0,01	-0,04	-0,01	-0,07	-0,02	-0,04	0,01
PCB 187	-0,87	0,90	0,20	-0,02	0,01	-0,15	0,18	0,13	0,45	2,63	12,27	0,12	1,70	0,15	0,05	0,14	0,05	0,20	0,11	0,15	0,01	-0,04	-	-0,04	0,13

FIGURE S16: Plankton biomass in mg L^{-1} vs. atmospheric gas phase concentrations in pg m^{-3} for four PCB congeners. For the time periods with the higher plankton biomass, the gas phase concentrations were at the lower end of those observed.