Table B.90. *Calculation results: PCB-28 concentration in the atmosphere at interface with soil (pg/m3) calculated by models on the basis of "reference" data set and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1	MSCE-POP_1	SimpleBox 3.0_3	SimpleBox 3.12_3				SimpleBox 3.0_2	SimpleBox 3.12_2	MSCE-POP_2		
Jan	110.38	17.20	19.54	13.50	*40.16*	*46.88*	Jan	16.07	16.08	11.60	*14.58*	*2.58*
Feb	71.40	17.70	22.27	13.50	*31.22*	*27.03*	Feb	20.27	20.27	13.90	*18.15*	*3.68*
Mar	45.87	19.10	23.08	13.50	*25.39*	*14.21*	Mar	21.48	21.49	15.60	*19.52*	*3.40*
Apr	33.94	27.60	23.50	13.50	*24.64*	*8.58*	Apr	22.11	22.13	22.80	*22.35*	*0.39*
May	28.53	33.50	23.74	13.50	*24.82*	*8.53*	May	22.47	22.49	28.20	*24.39*	*3.30*
Jun	26.04	27.00	23.89	13.50	*22.61*	*6.21*	Jun	22.68	22.72	22.80	*22.73*	*0.06*
Jul	24.89	26.20	23.99	13.50	*22.15*	*5.83*	Jul	22.83	22.87	22.60	*22.77*	*0.15*
Aug	24.35	31.20	24.07	13.50	*23.28*	*7.31*	Aug	22.94	23.00	27.10	*24.34*	*2.39*
Sep	24.10	28.50	24.13	13.50	*22.56*	*6.38*	Sep	23.03	23.09	25.30	*23.81*	*1.29*
Oct	23.99	22.60	24.18	13.50	*21.07*	*5.09*	Oct	23.11	23.18	20.10	*22.13*	*1.76*
Nov	23.93	16.80	24.23	13.50	*19.62*	*5.33*	Nov	23.17	23.25	15.00	*20.47*	*4.74*
Dec	23.96	16.10	24.27	13.50	*19.46*	*5.48*	Dec	23.23	23.32	14.60	*20.38*	*5.01*
Annual	**38.45**	**25.06**	**23.41**	**13.50**	***25.11***	***10.26***	**Annual**	**21.95**	**21.99**	**21.00**	***21.65***	***0.56***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Table B.91. *Calculation results: PCB-28 concentration in the atmosphere at its interface with soil (pg/m^3) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	165.23	16.30	19.41	31.78	*58.18*	*71.68*	Jan	17.34	17.34	11.20	*15.29*	*3.55*
Feb	79.33	17.30	23.57	39.42	*39.90*	*27.88*	Feb	22.72	22.75	13.50	*19.66*	*5.33*
Mar	42.68	18.40	24.60	40.85	*31.63*	*11.99*	Mar	23.96	24.02	15.00	*20.99*	*5.19*
Apr	31.01	24.50	24.99	41.10	*30.40*	*7.72*	Apr	24.43	24.52	20.20	*23.05*	*2.47*
May	27.43	24.60	25.17	40.98	*29.54*	*7.72*	May	24.63	24.76	20.70	*23.36*	*2.31*
Jun	26.28	19.40	25.26	40.75	*27.92*	*9.07*	Jun	24.75	24.92	16.40	*22.02*	*4.87*
Jul	25.89	17.60	25.33	40.51	*27.33*	*9.56*	Jul	24.83	25.03	15.10	*21.65*	*5.68*
Aug	25.74	20.10	25.39	40.26	*27.87*	*8.65*	Aug	24.90	25.13	17.50	*22.51*	*4.34*
Sep	25.67	21.30	25.43	40.02	*28.11*	*8.19*	Sep	24.95	25.22	18.90	*23.02*	*3.57*
Oct	25.63	19.50	25.47	39.80	*27.60*	*8.62*	Oct	25.00	25.30	17.40	*22.57*	*4.48*
Nov	25.61	15.80	25.50	39.58	*26.62*	*9.79*	Nov	25.04	25.37	14.20	*21.54*	*6.36*
Dec	25.59	15.60	25.53	39.38	*26.52*	*9.77*	Dec	25.07	25.44	14.20	*21.57*	*6.39*
Annual	**43.84**	**19.90**	**24.64**	**39.54**	***31.98***	***11.51***	**Annual**	**23.97**	**24.15**	**16.59**	***21.57***	***4.31***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Comparison between results obtained on the basis of two data sets. The percentage difference between calculation results obtained with two data sets of physical-chemical properties (for those models who provided calculations for both these sets) is shown in Table B.92.

Table B.92. *The percentage difference between calculation results on PCB-28 concentration in the atmosphere at its interface with soil obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0 _3	SimpleBox 3.12_3	MSCE-POP_1	MSCE-POP_2
Jan	49.7%	7.9%	7.9%	-0.7%	135.3%	-5.2%	-3.4%
Feb	11.1%	12.1%	12.2%	5.8%	192.0%	-2.3%	-2.9%
Mar	-7.0%	11.6%	11.8%	6.6%	202.5%	-3.7%	-3.8%
Apr	-8.6%	10.4%	10.8%	6.3%	204.4%	-11.2%	-11.4%
May	-3.9%	9.6%	10.1%	6.0%	203.5%	-26.6%	-26.6%
Jun	0.9%	9.1%	9.7%	5.7%	201.8%	-28.1%	-28.1%
Jul	4.0%	8.8%	9.4%	5.6%	200.0%	-32.8%	-33.2%
Aug	5.7%	8.5%	9.3%	5.5%	198.2%	-35.6%	-35.4%
Sep	6.5%	8.3%	9.2%	5.4%	196.4%	-25.3%	-25.3%
Oct	6.9%	8.2%	9.2%	5.3%	194.7%	-13.7%	-13.4%
Nov	7.0%	8.1%	9.1%	5.2%	193.1%	-6.0%	-5.3%
Dec	6.8%	7.9%	9.1%	5.2%	191.6%	-3.1%	-2.7%
Annual	**14.0%**	**9.2%**	**9.8%**	**5.2%**	**192.8%**	**-20.6%**	**-21.0%**

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.

B.5.2. Comparison of calculated values of PCB-28 concentration in the atmosphere at its interface with ocean

Reference data set. Calculation results on PCB-28 concentration in the atmosphere at its interface with ocean calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table B.93.

Monthly values of PCB-28 concentration in the atmosphere at its interface with ocean calculated by participating models on the basis of "reference" data set and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.113 a and b, respectively.

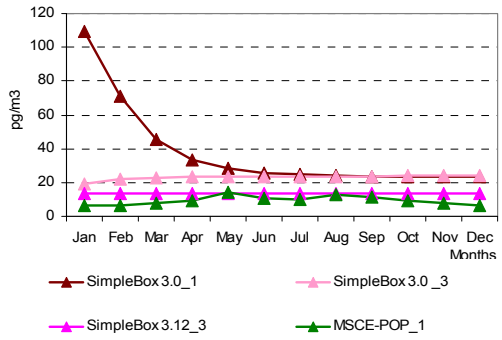


Fig. B.113a. *PCB-28 concentration in the atmosphere at interface with ocean (pg/m3) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

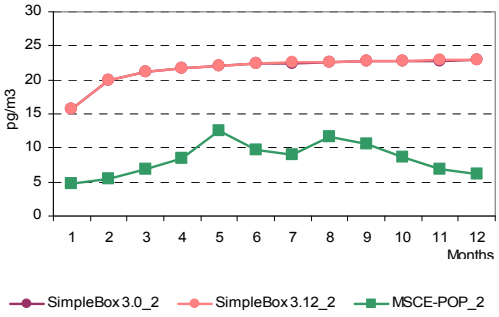


Fig. B.113b. *PCB-28 concentration in the atmosphere at interface with ocean (pg/m3) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-28 concentration in the atmosphere at its interface with ocean calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table B.94.

Monthly values of PCB-28 concentration in the atmosphere at its interface with ocean calculated by all participating models on the basis of "own or alternative" data sets and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.114 a and b, respectively.

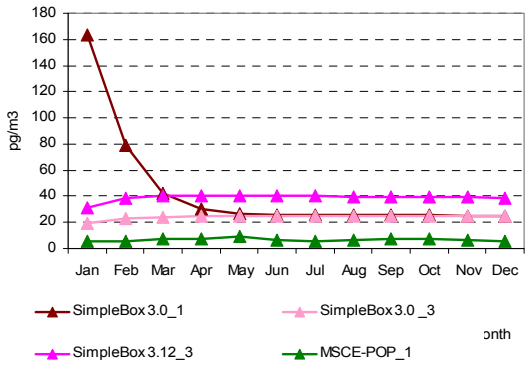


Fig. B.114a. *PCB-28 concentration in the atmosphere at interface with ocean (pg/m^3) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

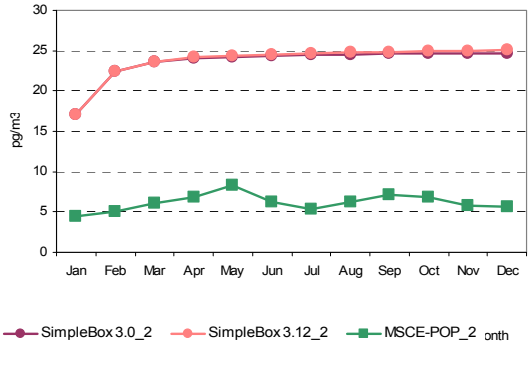


Fig. B.114b. *PCB-28 concentration in the atmosphere at interface with ocean (pg/m^3) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table B.93. *Calculation results: PCB-28 concentration in the atmosphere at its interface with ocean (pg/m^3) calculated by models on the basis of "reference" data set and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	109.39	6.04	19.21	13.28	*36.98*	*48.57*	Jan	15.78	15.78	4.68	*12.08*	*6.41*
Feb	70.79	6.39	21.92	13.28	*28.09*	*29.17*	Feb	19.93	19.94	5.50	*15.12*	*8.33*
Mar	45.43	7.79	22.72	13.28	*22.30*	*16.61*	Mar	21.13	21.15	6.89	*16.39*	*8.23*
Apr	33.56	9.58	23.15	13.28	*19.89*	*10.76*	Apr	21.77	21.79	8.41	*17.32*	*7.72*
May	28.17	14.10	23.39	13.28	*19.73*	*7.26*	May	22.12	22.15	12.60	*18.95*	*5.50*
Jun	25.69	10.80	23.53	13.28	*18.32*	*7.38*	Jun	22.33	22.37	9.68	*18.13*	*7.32*
Jul	24.54	10.10	23.63	13.28	*17.89*	*7.29*	Jul	22.48	22.53	9.00	*18.00*	*7.80*
Aug	24.00	12.90	23.71	13.28	*18.47*	*6.22*	Aug	22.59	22.65	11.60	*18.95*	*6.36*
Sep	23.75	11.60	23.77	13.28	*18.10*	*6.57*	Sep	22.68	22.74	10.60	*18.67*	*6.99*
Oct	23.64	9.43	23.83	13.28	*17.54*	*7.32*	Oct	22.76	22.83	8.61	*18.06*	*8.19*
Nov	23.58	7.48	23.87	13.28	*17.05*	*8.06*	Nov	22.82	22.90	6.85	*17.53*	*9.24*
Dec	23.61	6.56	23.91	13.28	*16.84*	*8.45*	Dec	22.88	22.97	6.14	*17.33*	*9.69*
Annual	**38.01**	**9.87**	**23.06**	**13.28**	***21.05***	***12.61***	**Annual**	**21.61**	**21.65**	**8.76**	***17.34***	***7.43***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Table B.94. *Calculation results: PCB-28 concentration in the atmosphere at its interface with ocean (pg/m3) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	163.92	5.62	19.08	31.40	*55.01*	*73.37*	Jan	17.03	17.04	4.39	*12.82*	*7.30*
Feb	78.74	5.87	23.21	39.00	*36.70*	*31.12*	Feb	22.37	22.40	5.08	*16.62*	*9.99*
Mar	42.27	6.91	24.24	40.42	*28.46*	*16.49*	Mar	23.60	23.66	6.13	*17.80*	*10.11*
Apr	30.64	7.72	24.63	40.67	*25.92*	*13.82*	Apr	24.07	24.16	6.79	*18.34*	*10.00*
May	27.06	9.32	24.80	40.55	*25.43*	*12.80*	May	24.27	24.40	8.39	*19.02*	*9.21*
Jun	25.92	6.87	24.90	40.33	*24.50*	*13.70*	Jun	24.39	24.56	6.23	*18.39*	*10.53*
Jul	25.53	5.90	24.97	40.08	*24.12*	*14.02*	Jul	24.47	24.67	5.36	*18.17*	*11.09*
Aug	25.38	6.84	25.02	39.83	*24.27*	*13.51*	Aug	24.54	24.77	6.29	*18.53*	*10.60*
Sep	25.31	7.69	25.07	39.60	*24.42*	*13.06*	Sep	24.59	24.86	7.11	*18.85*	*10.17*
Oct	25.27	7.39	25.11	39.37	*24.28*	*13.10*	Oct	24.64	24.94	6.79	*18.79*	*10.39*
Nov	25.25	6.34	25.14	39.16	*23.97*	*13.47*	Nov	24.68	25.01	5.83	*18.51*	*10.98*
Dec	25.23	5.96	25.17	38.96	*23.83*	*13.56*	Dec	24.71	25.08	5.60	*18.46*	*11.14*
Annual	**43.37**	**7.01**	**24.28**	**39.11**	***28.45***	***16.47***	**Annual**	**23.61**	**23.80**	**6.26**	***17.89***	***10.08***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Comparison between results obtained on the basis of two data sets. The percentage difference between calculation results obtained with two data sets of physical-chemical properties (for those models who provided calculations for both these sets) is shown in Table B.95.

Table B.95. *The percentage difference between calculation results on PCB-28 concentration in the atmosphere at its interface with ocean obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0_3	SimpleBox 3.12_3	MSCE-POP_1	MSCE-POP_2
Jan	49.8%	7.9%	8.0%	-0.7%	136.5%	-7.0%	-6.2%
Feb	11.2%	12.2%	12.4%	5.9%	193.8%	-8.1%	-7.6%
Mar	-7.0%	11.7%	11.9%	6.7%	204.5%	-11.3%	-11.0%
Apr	-8.7%	10.6%	10.9%	6.4%	206.4%	-19.4%	-19.3%
May	-3.9%	9.7%	10.2%	6.1%	205.4%	-33.9%	-33.4%
Jun	0.9%	9.2%	9.8%	5.8%	203.8%	-36.4%	-35.6%
Jul	4.0%	8.9%	9.5%	5.6%	201.9%	-41.6%	-40.4%
Aug	5.7%	8.6%	9.4%	5.5%	200.1%	-47.0%	-45.8%
Sep	6.6%	8.4%	9.3%	5.4%	198.3%	-33.7%	-32.9%
Oct	6.9%	8.3%	9.3%	5.4%	196.6%	-21.6%	-21.1%
Nov	7.1%	8.1%	9.2%	5.3%	195.0%	-15.2%	-14.9%
Dec	6.9%	8.0%	9.2%	5.2%	193.5%	-9.1%	-8.8%
Annual	14.1%	9.3%	9.9%	5.3%	194.6%	-29.0%	-28.6%

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.

B.5.3. Comparison of calculated values of PCB-28 concentration in the atmosphere at its interface with vegetation

Reference data set. Calculation results on PCB-28 concentration in the atmosphere at its interface with vegetation calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table 3.96.

Monthly values of PCB-28 concentration in the atmosphere at its interface with vegetation calculated by participating models on the basis of "reference" data set and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. 3.115 a and b, respectively.

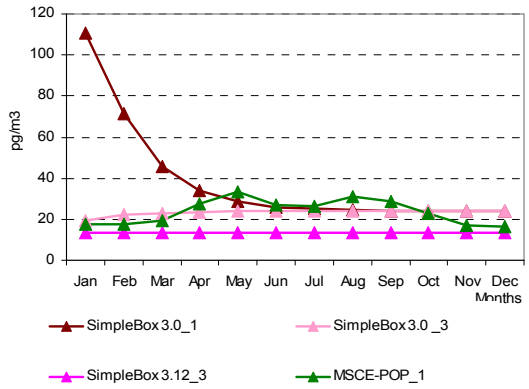


Fig. 3.115a. *PCB-28 concentration in the atmosphere at interface with vegetation (pg/m3) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

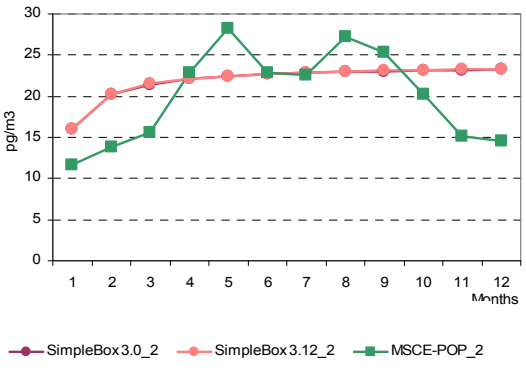


Fig. 3.115b. *PCB-28 concentration in the atmosphere at interface with vegetation (pg/m3) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-28 concentration in the atmosphere at its interface with vegetation calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table B.97.

Monthly values of PCB-28 concentration in the atmosphere at its interface with vegetation calculated by all participating models on the basis of "own or alternative" data sets and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.116 a and b, respectively.

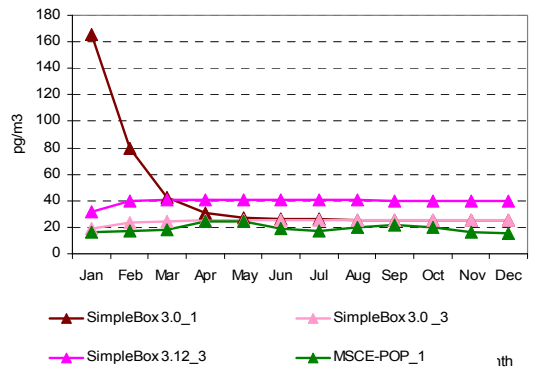


Fig. B.116a. *PCB-28 concentration in the atmosphere at interface with vegetation (pg/m^3) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

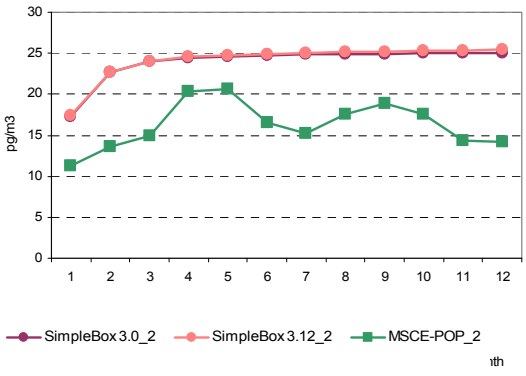


Fig. B.116b. *PCB-28 concentration in the atmosphere at interface with vegetation (pg/m^3) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table B.96. *Calculation results: PCB-28 concentration in the atmosphere at its interface with vegetation (pg/m^3) calculated by models on the basis of "reference" data set and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE- POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	110.38	17.30	19.54	13.50	*40.18*	*46.86*	Jan	16.07	16.08	11.60	*14.58*	*2.58*
Feb	71.40	17.80	22.27	13.50	*31.24*	*27.01*	Feb	20.27	20.27	13.90	*18.15*	*3.68*
Mar	45.87	19.10	23.08	13.50	*25.39*	*14.21*	Mar	21.48	21.49	15.60	*19.52*	*3.40*
Apr	33.94	27.70	23.50	13.50	*24.66*	*8.59*	Apr	22.11	22.13	22.90	*22.38*	*0.45*
May	28.53	33.60	23.74	13.50	*24.84*	*8.57*	May	22.47	22.49	28.20	*24.39*	*3.30*
Jun	26.04	27.00	23.89	13.50	*22.61*	*6.21*	Jun	22.68	22.72	22.80	*22.73*	*0.06*
Jul	24.89	26.30	23.99	13.50	*22.17*	*5.86*	Jul	22.83	22.87	22.60	*22.77*	*0.15*
Aug	24.35	31.30	24.07	13.50	*23.31*	*7.34*	Aug	22.94	23.00	27.20	*24.38*	*2.44*
Sep	24.10	28.60	24.13	13.50	*22.58*	*6.41*	Sep	23.03	23.09	25.40	*23.84*	*1.35*
Oct	23.99	22.70	24.18	13.50	*21.09*	*5.10*	Oct	23.11	23.18	20.20	*22.16*	*1.70*
Nov	23.93	16.90	24.23	13.50	*19.64*	*5.31*	Nov	23.17	23.25	15.10	*20.51*	*4.68*
Dec	23.96	16.20	24.27	13.50	*19.48*	*5.46*	Dec	23.23	23.32	14.60	*20.38*	*5.01*
Annual	**38.45**	**25.14**	**23.41**	**13.50**	***25.13***	***10.26***	**Annual**	**21.95**	**21.99**	**21.04**	***21.66***	***0.54***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Table B.97. *Calculation results: PCB-28 concentration in the atmosphere at its interface with vegetation (pg/m^3) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation.*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	165.23	16.30	19.41	31.78	*58.18*	*71.68*	Jan	17.34	17.34	11.20	*15.29*	*3.55*
Feb	79.33	17.40	23.57	39.42	*39.93*	*27.86*	Feb	22.72	22.75	13.60	*19.69*	*5.28*
Mar	42.68	18.40	24.60	40.85	*31.63*	*11.99*	Mar	23.96	24.02	15.00	*20.99*	*5.19*
Apr	31.01	24.60	24.99	41.10	*30.43*	*7.70*	Apr	24.43	24.52	20.30	*23.08*	*2.41*
May	27.43	24.70	25.17	40.98	*29.57*	*7.70*	May	24.63	24.76	20.70	*23.36*	*2.31*
Jun	26.28	19.40	25.26	40.75	*27.92*	*9.07*	Jun	24.75	24.92	16.50	*22.05*	*4.81*
Jul	25.89	17.60	25.33	40.51	*27.33*	*9.56*	Jul	24.83	25.03	15.20	*21.69*	*5.62*
Aug	25.74	20.20	25.39	40.26	*27.90*	*8.62*	Aug	24.90	25.13	17.50	*22.51*	*4.34*
Sep	25.67	21.30	25.43	40.02	*28.11*	*8.19*	Sep	24.95	25.22	18.90	*23.02*	*3.57*
Oct	25.63	19.60	25.47	39.80	*27.62*	*8.59*	Oct	25.00	25.30	17.50	*22.60*	*4.42*
Nov	25.61	15.90	25.50	39.58	*26.65*	*9.75*	Nov	25.04	25.37	14.30	*21.57*	*6.30*
Dec	25.59	15.60	25.53	39.38	*26.52*	*9.77*	Dec	25.07	25.44	14.20	*21.57*	*6.39*
Annual	**43.84**	**19.95**	**24.64**	**39.54**	***31.99***	***11.49***	**Annual**	**23.97**	**24.15**	**16.64**	***21.59***	***4.28***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Comparison between results obtained on the basis of two data sets. The percentage difference between calculation results obtained with two data sets of physical-chemical properties (for those models who provided calculations for both these sets) is shown in Table B.98.

Table B.98. *The percentage difference between calculation results on PCB-28 concentration in the atmosphere at interface with vegetation obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0 _3	SimpleBox 3.12_3	MSCE-POP_1	MSCE-POP_2
Jan	49.7%	7.9%	7.9%	-0.7%	135.3%	-5.8%	-3.4%
Feb	11.1%	12.1%	12.2%	5.8%	192.0%	-2.2%	-2.2%
Mar	-7.0%	11.6%	11.8%	6.6%	202.5%	-3.7%	-3.8%
Apr	-8.6%	10.4%	10.8%	6.3%	204.4%	-11.2%	-11.4%
May	-3.9%	9.6%	10.1%	6.0%	203.5%	-26.5%	-26.6%
Jun	0.9%	9.1%	9.7%	5.7%	201.8%	-28.1%	-27.6%
Jul	4.0%	8.8%	9.4%	5.6%	200.0%	-33.1%	-32.7%
Aug	5.7%	8.5%	9.3%	5.5%	198.2%	-35.5%	-35.7%
Sep	6.5%	8.3%	9.2%	5.4%	196.4%	-25.5%	-25.6%
Oct	6.9%	8.2%	9.2%	5.3%	194.7%	-13.7%	-13.4%
Nov	7.0%	8.1%	9.1%	5.2%	193.1%	-5.9%	-5.3%
Dec	6.8%	7.9%	9.1%	5.2%	191.6%	-3.7%	-2.7%
Annual	14.0%	9.2%	9.8%	5.2%	192.8%	-20.6%	-20.9%

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.

B.5.4. Comparison of calculated values of PCB-28 concentration in surface ocean layer

Reference data set. Calculation results on PCB-28 concentration in surface ocean layer calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table B.99.

Monthly values of PCB-28 concentration in surface ocean layer calculated by participating models on the basis of "reference" data set and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.117 a and b, respectively.

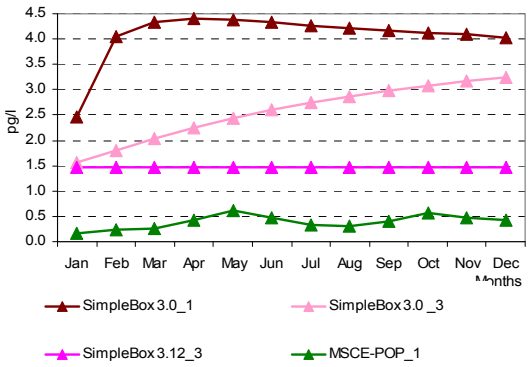


Fig. B.117a. *PCB-28 concentration in surface ocean layer (pg/l) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

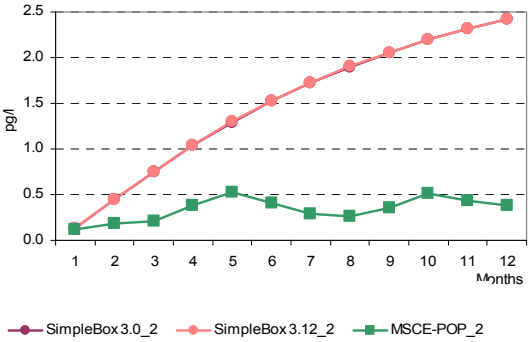


Fig. B.117b. *PCB-28 concentration in surface ocean layer (pg/l) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-28 concentration in surface ocean layer calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table B.100.

Monthly values of PCB-28 concentration in surface ocean layer calculated by all participating models on the basis of "own or alternative" data sets and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.118 a and b, respectively.

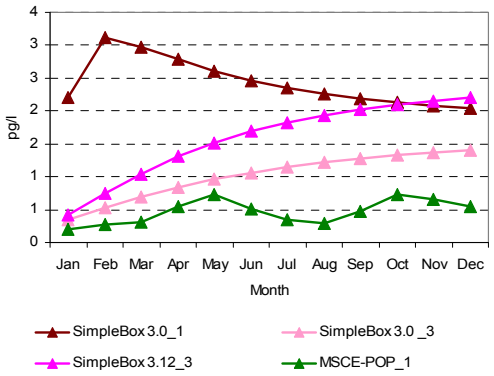


Fig. B.118a. *PCB-28 concentration in surface ocean layer (pg/l) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

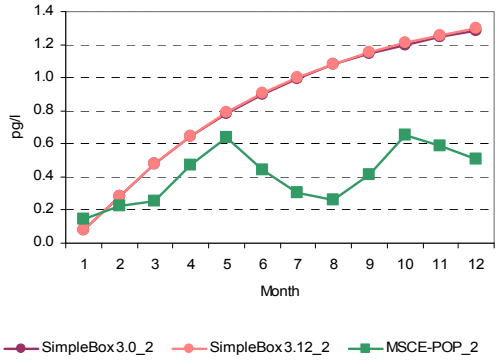


Fig. B.118b. *PCB-28 concentration in surface ocean layer (pg/l) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table B.99. *Calculation results: PCB-28 concentration in surface ocean layer (pg/l) calculated by models on the basis of "reference" data set and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	2.46	0.17	1.56	1.46	*1.41*	*0.94*	Jan	0.13	0.13	0.12	*0.13*	*0.00*
Feb	4.06	0.23	1.80	1.46	*1.89*	*1.60*	Feb	0.44	0.44	0.19	*0.36*	*0.15*
Mar	4.34	0.25	2.03	1.46	*2.02*	*1.71*	Mar	0.75	0.75	0.21	*0.57*	*0.31*
Apr	4.40	0.44	2.24	1.46	*2.14*	*1.68*	Apr	1.04	1.04	0.38	*0.82*	*0.38*
May	4.38	0.61	2.43	1.46	*2.22*	*1.62*	May	1.30	1.30	0.53	*1.04*	*0.44*
Jun	4.33	0.47	2.60	1.46	*2.21*	*1.66*	Jun	1.52	1.52	0.40	*1.15*	*0.65*
Jul	4.27	0.33	2.75	1.46	*2.20*	*1.69*	Jul	1.72	1.72	0.29	*1.25*	*0.83*
Aug	4.21	0.31	2.88	1.46	*2.21*	*1.70*	Aug	1.90	1.90	0.27	*1.36*	*0.94*
Sep	4.17	0.40	2.99	1.46	*2.26*	*1.66*	Sep	2.06	2.06	0.36	*1.49*	*0.98*
Oct	4.13	0.57	3.09	1.46	*2.31*	*1.60*	Oct	2.19	2.20	0.52	*1.63*	*0.97*
Nov	4.10	0.48	3.18	1.46	*2.31*	*1.64*	Nov	2.31	2.32	0.43	*1.69*	*1.09*
Dec	4.02	0.42	3.26	1.46	*2.29*	*1.64*	Dec	2.42	2.43	0.38	*1.74*	*1.18*
Annual	**4.07**	**0.38**	**2.57**	**1.46**	***2.12***	***1.58***	**Annual**	**1.48**	**1.48**	**0.33**	***1.10***	***0.67***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Table B.100. *Calculation results: PCB-28 concentration in surface ocean layer (pg/l) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	2.20	0.21	0.35	0.42	*0.79*	*0.94*	Jan	0.08	0.08	0.15	*0.10*	*0.04*
Feb	3.12	0.28	0.53	0.74	*1.17*	*1.32*	Feb	0.29	0.29	0.23	*0.27*	*0.03*
Mar	2.98	0.30	0.70	1.05	*1.26*	*1.19*	Mar	0.48	0.48	0.26	*0.40*	*0.13*
Apr	2.79	0.54	0.84	1.31	*1.37*	*1.00*	Apr	0.65	0.65	0.47	*0.59*	*0.10*
May	2.61	0.73	0.96	1.52	*1.46*	*0.84*	May	0.79	0.79	0.64	*0.74*	*0.08*
Jun	2.47	0.51	1.06	1.69	*1.43*	*0.84*	Jun	0.90	0.90	0.44	*0.75*	*0.27*
Jul	2.35	0.35	1.15	1.83	*1.42*	*0.87*	Jul	1.00	1.00	0.31	*0.77*	*0.40*
Aug	2.26	0.30	1.22	1.94	*1.43*	*0.87*	Aug	1.08	1.08	0.26	*0.81*	*0.47*
Sep	2.18	0.47	1.28	2.03	*1.49*	*0.79*	Sep	1.14	1.15	0.42	*0.90*	*0.42*
Oct	2.13	0.72	1.32	2.10	*1.57*	*0.67*	Oct	1.20	1.21	0.65	*1.02*	*0.32*
Nov	2.08	0.65	1.36	2.16	*1.56*	*0.71*	Nov	1.25	1.26	0.59	*1.03*	*0.38*
Dec	2.05	0.55	1.40	2.20	*1.55*	*0.75*	Dec	1.29	1.30	0.51	*1.03*	*0.45*
Annual	**2.43**	**0.44**	**1.02**	**1.58**	***1.37***	***0.85***	**Annual**	**0.84**	**0.85**	**0.38**	***0.69***	***0.27***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Comparison between results obtained on the basis of two data sets. The percentage difference between calculation results obtained with two data sets of physical-chemical properties (for those models who provided calculations for both these sets) is shown in Table B.101.

Table B.101. *The percentage difference between calculation results on PCB-28 concentration in surface ocean layer obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0_3	SimpleBox 3.12_3	MSCE-POP_1	MSCE-POP_2
Jan	-10.4%	-36.0%	-36.0%	-77.5%	-71.6%	19.2%	20.3%
Feb	-23.1%	-35.6%	-35.5%	-70.5%	-49.1%	20.0%	20.2%
Mar	-31.4%	-36.5%	-36.4%	-65.6%	-28.4%	20.8%	21.8%
Apr	-36.6%	-37.9%	-37.8%	-62.4%	-10.6%	23.8%	24.5%
May	-40.3%	-39.4%	-39.3%	-60.4%	3.8%	20.3%	21.2%
Jun	-42.9%	-40.8%	-40.6%	-59.0%	15.5%	9.2%	9.7%
Jul	-44.9%	-42.1%	-41.9%	-58.2%	24.9%	4.8%	5.1%
Aug	-46.4%	-43.3%	-43.0%	-57.7%	32.5%	-3.6%	-3.3%
Sep	-47.6%	-44.3%	-44.0%	-57.3%	38.6%	16.0%	17.1%
Oct	-48.6%	-45.3%	-44.9%	-57.2%	43.5%	26.1%	27.0%
Nov	-49.3%	-46.1%	-45.8%	-57.1%	47.4%	35.0%	36.0%
Dec	-49.1%	-46.9%	-46.5%	-57.1%	50.5%	31.8%	32.6%
Annual	**-40.2%**	**-43.1%**	**-42.8%**	**-60.5%**	**8.1%**	**16.4%**	**17.1%**

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.

B.5.5. Comparison of calculated values of PCB-28 concentration in vegetation

Reference data set. Calculation results on PCB-28 concentration in vegetation calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table B.102.

Monthly values of PCB-28 concentration in vegetation calculated by participating models on the basis of "reference" data set and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.119 a and b, respectively.

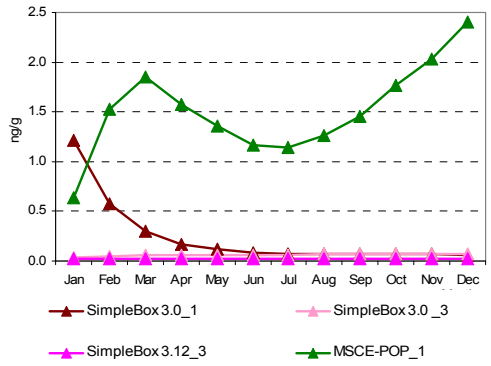


Fig. B.119a. *PCB-28 concentration in vegetation (ng/g) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

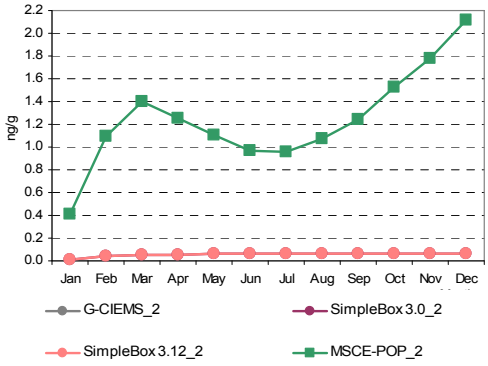


Fig. B.119b. *PCB-28 concentration in vegetation (ng/g) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-28 concentration in vegetation calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table B.103.

Monthly values of PCB-28 concentration in vegetation calculated by participating models on the basis of "own or alternative" data sets and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.121 a and b, respectively.

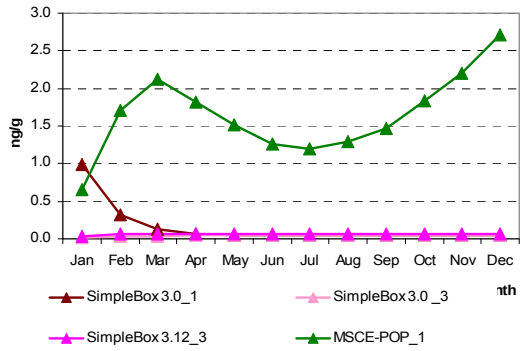


Fig. B.120a. *PCB-28 concentration in vegetation (ng/g) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

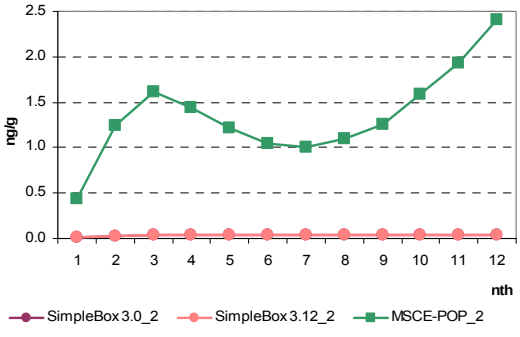


Fig. B.120b. *PCB-28 concentration in vegetation (ng/g) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table B.102. *Calculation results: PCB-28 concentration in vegetation (ng/g) calculated by models on the basis of "reference" data set and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	1.21	0.64	0.03	0.02	*0.48*	*0.57*	Jan	0.02	0.02	0.41	*0.15*	*0.23*
Feb	0.58	1.53	0.05	0.02	*0.55*	*0.70*	Feb	0.04	0.04	1.10	*0.39*	*0.61*
Mar	0.30	1.85	0.06	0.02	*0.56*	*0.87*	Mar	0.05	0.05	1.40	*0.50*	*0.78*
Apr	0.17	1.58	0.06	0.02	*0.46*	*0.75*	Apr	0.06	0.06	1.25	*0.45*	*0.69*
May	0.12	1.36	0.06	0.02	*0.39*	*0.65*	May	0.06	0.06	1.11	*0.41*	*0.61*
Jun	0.09	1.17	0.07	0.02	*0.34*	*0.56*	Jun	0.06	0.06	0.97	*0.36*	*0.52*
Jul	0.08	1.14	0.07	0.02	*0.33*	*0.54*	Jul	0.06	0.06	0.96	*0.36*	*0.52*
Aug	0.07	1.26	0.07	0.02	*0.36*	*0.60*	Aug	0.06	0.06	1.07	*0.40*	*0.58*
Sep	0.07	1.45	0.07	0.02	*0.40*	*0.70*	Sep	0.06	0.06	1.24	*0.46*	*0.68*
Oct	0.07	1.77	0.07	0.02	*0.48*	*0.86*	Oct	0.06	0.06	1.53	*0.55*	*0.85*
Nov	0.07	2.03	0.07	0.02	*0.55*	*0.99*	Nov	0.06	0.06	1.78	*0.64*	*0.99*
Dec	0.07	2.40	0.07	0.02	*0.64*	*1.17*	Dec	0.06	0.06	2.12	*0.75*	*1.19*
Annual	**0.24**	**1.37**	**0.06**	**0.02**	***0.43***	***0.64***	**Annual**	**0.06**	**0.06**	**1.10**	***0.41***	***0.60***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Table B.103. *Calculation results: PCB-28 concentration in vegetation (ng/g) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	0.98	0.66	0.02	0.03	*0.42*	*0.48*	Jan	0.01	0.01	0.43	*0.15*	*0.24*
Feb	0.33	1.71	0.03	0.06	*0.53*	*0.80*	Feb	0.03	0.03	1.24	*0.43*	*0.70*
Mar	0.13	2.12	0.04	0.07	*0.59*	*1.02*	Mar	0.04	0.04	1.61	*0.56*	*0.91*
Apr	0.07	1.82	0.04	0.07	*0.50*	*0.88*	Apr	0.04	0.04	1.44	*0.51*	*0.81*
May	0.05	1.51	0.04	0.07	*0.42*	*0.73*	May	0.04	0.04	1.22	*0.43*	*0.68*
Jun	0.05	1.26	0.04	0.07	*0.35*	*0.60*	Jun	0.04	0.04	1.04	*0.37*	*0.58*
Jul	0.04	1.20	0.04	0.07	*0.34*	*0.57*	Jul	0.04	0.04	1.01	*0.36*	*0.56*
Aug	0.04	1.29	0.04	0.07	*0.36*	*0.62*	Aug	0.04	0.04	1.10	*0.39*	*0.61*
Sep	0.04	1.47	0.04	0.07	*0.41*	*0.71*	Sep	0.04	0.04	1.26	*0.45*	*0.70*
Oct	0.04	1.83	0.04	0.07	*0.50*	*0.89*	Oct	0.04	0.04	1.59	*0.56*	*0.89*
Nov	0.04	2.20	0.04	0.07	*0.59*	*1.07*	Nov	0.04	0.04	1.93	*0.67*	*1.09*
Dec	0.04	2.71	0.04	0.07	*0.72*	*1.33*	Dec	0.04	0.04	2.41	*0.83*	*1.37*
Annual	**0.16**	**1.49**	**0.04**	**0.07**	***0.44***	***0.70***	**Annual**	**0.04**	**0.04**	**1.19**	***0.43***	***0.67***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Comparison between results obtained on the basis of two data sets. The percentage difference between calculation results obtained with two data sets of physical-chemical properties (for those models who provided calculations for both these sets) is shown in Table B.104.

Table B.104. *The percentage difference between calculation results on PCB-28 concentration in vegetation obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0 _3	SimpleBox 3.12_3	MSCE-POP_1	MSCE-POP_2
Jan	-18.9%	-9.5%	-9.5%	-44.6%	20.2%	3.6%	5.6%
Feb	-44.1%	-19.0%	-19.0%	-31.8%	134.7%	11.8%	12.7%
Mar	-56.7%	-25.8%	-25.7%	-32.3%	169.7%	14.6%	15.0%
Apr	-59.6%	-29.6%	-29.4%	-33.7%	179.3%	15.2%	15.2%
May	-55.3%	-31.7%	-31.4%	-34.6%	180.8%	11.0%	9.9%
Jun	-48.3%	-32.8%	-32.4%	-35.2%	180.0%	7.7%	7.4%
Jul	-42.4%	-33.3%	-33.0%	-35.5%	178.5%	5.3%	5.2%
Aug	-38.7%	-33.7%	-33.2%	-35.7%	176.8%	2.4%	2.8%
Sep	-36.7%	-33.9%	-33.4%	-35.8%	175.1%	1.4%	1.6%
Oct	-35.7%	-34.0%	-33.5%	-35.9%	173.5%	3.4%	3.9%
Nov	-35.3%	-34.1%	-33.5%	-35.9%	172.0%	8.4%	8.4%
Dec	-34.3%	-34.2%	-33.6%	-36.0%	170.6%	12.9%	13.7%
Annual	**-35.4%**	**-31.6%**	**-31.3%**	**-34.9%**	**171.9%**	**8.2%**	**8.2%**

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.

B.5.6. Comparison of calculated values of PCB-28 concentration in surface soil layer

Reference data set. Calculation results on PCB-28 concentration in surface soil layer calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table B.105.

Monthly values of PCB-28 concentration in surface soil layer calculated by all participating models on the basis of "reference" data set and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.121 a and b, respectively.

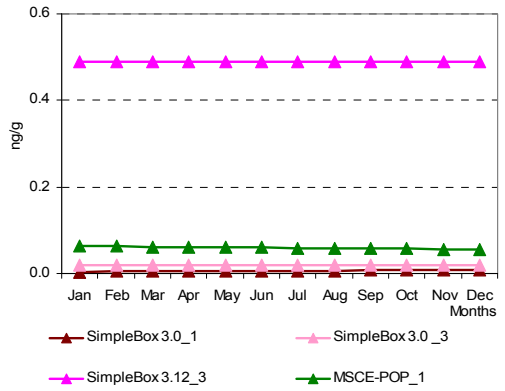


Fig.B.121a. *PCB-28 concentration in surface soil layer (ng/g) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (all models)*

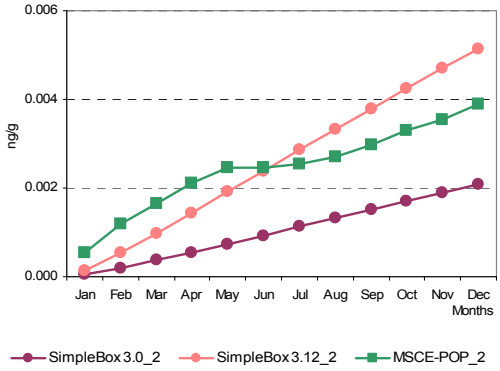


Fig.B.121b. *PCB-28 concentration in surface soil layer (ng/g) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-28 concentration in surface soil layer calculated by the models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table B.106.

Monthly values of PCB-28 concentration in surface soil layer calculated by all participating models on the basis of "own or alternative" data sets and taking into account non-zero (initial concentrations in media or historical emissions) and zero initial conditions are compared in Fig. B.122a and b, respectively.

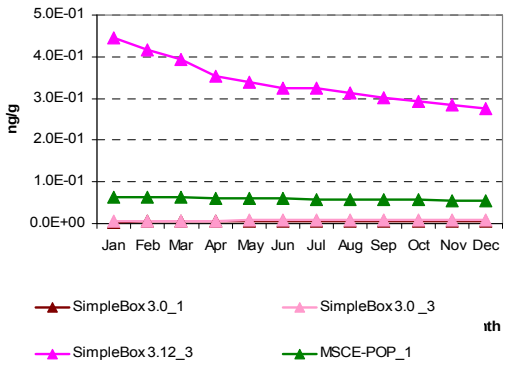


Fig. B.122a. *PCB-28 concentration in surface soil layer (ng/g) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions (all models)*

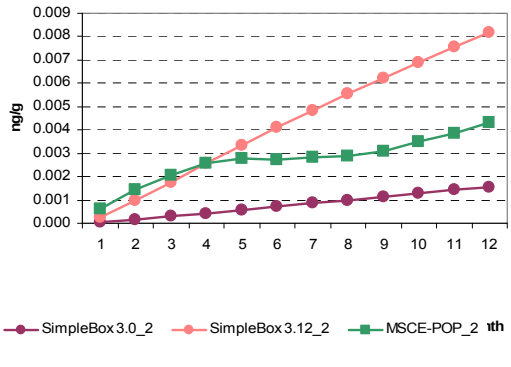


Fig. B.122b. *PCB-28 concentration in surface soil layer (ng/g) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table B.105. *Calculation results: PCB-28 concentration in surface soil layer (ng/g) calculated by models on the basis of "reference" data set and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	3.88E-03	6.37E-02	1.90E-02	4.88E-01	*1.44E-01*	*2.31E-01*	Jan	5.33E-05	1.44E-04	5.44E-04	*2.47E-04*	*2.61E-04*
Feb	5.06E-03	6.28E-02	1.90E-02	4.88E-01	*1.44E-01*	*2.31E-01*	Feb	2.00E-04	5.32E-04	1.18E-03	*6.37E-04*	*4.98E-04*
Mar	5.69E-03	6.20E-02	1.91E-02	4.88E-01	*1.44E-01*	*2.31E-01*	Mar	3.70E-04	9.73E-04	1.65E-03	*9.98E-04*	*6.40E-04*
Apr	6.07E-03	6.14E-02	1.92E-02	4.88E-01	*1.44E-01*	*2.31E-01*	Apr	5.54E-04	1.44E-03	2.12E-03	*1.37E-03*	*7.85E-04*
May	6.33E-03	6.07E-02	1.92E-02	4.88E-01	*1.44E-01*	*2.31E-01*	May	7.42E-04	1.91E-03	2.46E-03	*1.71E-03*	*8.78E-04*
Jun	6.55E-03	5.97E-02	1.93E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Jun	9.32E-04	2.39E-03	2.47E-03	*1.93E-03*	*8.65E-04*
Jul	6.73E-03	5.87E-02	1.94E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Jul	1.12E-03	2.86E-03	2.54E-03	*2.17E-03*	*9.24E-04*
Aug	6.91E-03	5.79E-02	1.95E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Aug	1.32E-03	3.33E-03	2.69E-03	*2.45E-03*	*1.03E-03*
Sep	7.08E-03	5.74E-02	1.96E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Sep	1.51E-03	3.79E-03	2.96E-03	*2.75E-03*	*1.16E-03*
Oct	7.24E-03	5.69E-02	1.97E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Oct	1.70E-03	4.25E-03	3.31E-03	*3.08E-03*	*1.29E-03*
Nov	7.40E-03	5.64E-02	1.98E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Nov	1.89E-03	4.70E-03	3.54E-03	*3.37E-03*	*1.41E-03*
Dec	7.52E-03	5.61E-02	1.98E-02	4.88E-01	*1.43E-01*	*2.31E-01*	Dec	2.07E-03	5.14E-03	3.89E-03	*3.70E-03*	*1.54E-03*
Annual	**6.37E-03**	**6.01E-02**	**1.94E-02**	**4.88E-01**	***1.44E-01***	***2.31E-01***	**Annual**	**1.13E-03**	**2.62E-03**	**2.19E-03**	***1.98E-03***	***7.70E-04***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Table B.106. *Calculation results: PCB-28 concentration in surface soil layer (ng/g) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation*

Month	Results obtained on the basis of initial concentrations given as input data		Results obtained on the basis of historical emissions		*m*	σ	Month	Results obtained on the basis of zero initial concentrations			*m*	σ
	SimpleBox 3.0_1[a]	MSCE-POP_1	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	3.87E-03	6.37E-02	6.87E-03	4.47E-01	*1.30E-01*	*2.13E-01*	Jan	4.06E-05	2.59E-04	6.22E-04	*3.07E-04*	*2.94E-04*
Feb	4.83E-03	6.29E-02	6.93E-03	4.18E-01	*1.23E-01*	*1.98E-01*	Feb	1.57E-04	9.72E-04	1.43E-03	*8.53E-04*	*6.45E-04*
Mar	5.21E-03	6.22E-02	7.02E-03	3.93E-01	*1.17E-01*	*1.86E-01*	Mar	2.91E-04	1.76E-03	2.04E-03	*1.36E-03*	*9.40E-04*
Apr	5.40E-03	6.15E-02	7.10E-03	3.54E-01	*1.07E-01*	*1.67E-01*	Apr	4.32E-04	2.56E-03	2.59E-03	*1.86E-03*	*1.24E-03*
May	5.54E-03	6.05E-02	7.19E-03	3.38E-01	*1.03E-01*	*1.59E-01*	May	5.75E-04	3.34E-03	2.79E-03	*2.23E-03*	*1.46E-03*
Jun	5.65E-03	5.92E-02	7.28E-03	3.24E-01	*9.91E-02*	*1.52E-01*	Jun	7.18E-04	4.09E-03	2.71E-03	*2.51E-03*	*1.70E-03*
Jul	5.76E-03	5.82E-02	7.37E-03	3.24E-01	*9.89E-02*	*1.52E-01*	Jul	8.59E-04	4.82E-03	2.81E-03	*2.83E-03*	*1.98E-03*
Aug	5.87E-03	5.72E-02	7.46E-03	3.12E-01	*9.57E-02*	*1.46E-01*	Aug	1.00E-03	5.54E-03	2.87E-03	*3.14E-03*	*2.28E-03*
Sep	5.97E-03	5.66E-02	7.54E-03	3.02E-01	*9.30E-02*	*1.41E-01*	Sep	1.14E-03	6.22E-03	3.11E-03	*3.49E-03*	*2.56E-03*
Oct	6.08E-03	5.61E-02	7.63E-03	2.93E-01	*9.06E-02*	*1.37E-01*	Oct	1.28E-03	6.89E-03	3.49E-03	*3.89E-03*	*2.83E-03*
Nov	6.18E-03	5.57E-02	7.72E-03	2.84E-01	*8.85E-02*	*1.33E-01*	Nov	1.42E-03	7.54E-03	3.88E-03	*4.28E-03*	*3.08E-03*
Dec	6.28E-03	5.54E-02	7.80E-03	2.77E-01	*8.67E-02*	*1.29E-01*	Dec	1.56E-03	8.16E-03	4.33E-03	*4.68E-03*	*3.32E-03*
Annual	**5.55E-03**	**5.98E-02**	**7.37E-03**	**3.43E-01**	***1.04E-01***	***1.61E-01***	**Annual**	**8.58E-04**	**4.35E-03**	**2.45E-03**	***2.55E-03***	***1.75E-03***

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period;
a – In SimpleBox results, the concentrations calculated are the bulk concentrations in the compartments. Total concentrations are averages of those over regional and continental cells.

Comparison between results obtained on the basis of two data sets. The percentage difference between calculation results obtained with two data sets of physical-chemical properties (for those models who provided calculations for both these sets) is shown in Table B.107.

Table B.107. *The percentage difference between calculation results on PCB-28 concentration in surface soil layer obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0 _3	SimpleBox 3.12_3	MSCE-POP_1	MSCE-POP_2
Jan	-0.4%	-24.0%	79.7%	-63.8%	-8.5%	0.0%	14.3%
Feb	-4.5%	-21.7%	82.7%	-63.5%	-14.4%	0.2%	21.2%
Mar	-8.5%	-21.4%	81.0%	-63.2%	-19.4%	0.3%	23.6%
Apr	-11.0%	-21.9%	77.8%	-62.9%	-27.5%	0.2%	22.2%
May	-12.6%	-22.5%	74.5%	-62.6%	-30.8%	-0.3%	13.4%
Jun	-13.7%	-23.0%	71.4%	-62.3%	-33.6%	-0.8%	9.7%
Jul	-14.4%	-23.4%	68.7%	-62.0%	-33.6%	-0.9%	10.6%
Aug	-15.1%	-23.8%	66.3%	-61.8%	-36.1%	-1.2%	6.7%
Sep	-15.6%	-24.1%	64.1%	-61.5%	-38.2%	-1.4%	5.1%
Oct	-16.1%	-24.4%	62.2%	-61.2%	-40.1%	-1.4%	5.4%
Nov	-16.6%	-24.7%	60.4%	-60.9%	-41.8%	-1.2%	9.6%
Dec	-16.5%	-24.9%	58.9%	-60.7%	-43.2%	-1.2%	11.3%
Annual	-12.9%	-23.9%	65.8%	-62.1%	-29.8%	-0.5%	11.6%

MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
MSCE-POP_2 - MSCE-POP results calculated on the basis of zero initial concentrations;
SimpleBox 3.0_1 - SimpleBox results of version 3.0 calculated on the basis of initial concentrations given as input data;
SimpleBox 3.0_2 and SimpleBox 3.12_2 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated on the basis of zero initial concentrations;
SimpleBox 3.0_3 and SimpleBox 3.12_3 – SimpleBox results of versions 3.0 and 3.12, respectively, calculated with historical emissions for 20-year period.

B.5.7. Comparison of PCB-28 intermedia mass flows and concentrations at the interfaces of main environmental media

A preliminary analysis of model results on intermedia mass flows and on concentrations in the main environmental media formed at their interfaces is presented in this section. In the comparison the calculated values of PCB-28 mass flows from the atmosphere to soil, to water, to vegetation and from vegetation to soil (see Sections B.4.1-B.4.4 above) and values of PCB-28 concentrations in the atmosphere at its interface with underlying surfaces (soil, ocean and vegetation); in the surface layer of soil, ocean and vegetation (see Sections B.5.1–B.5.6 above) are considered.

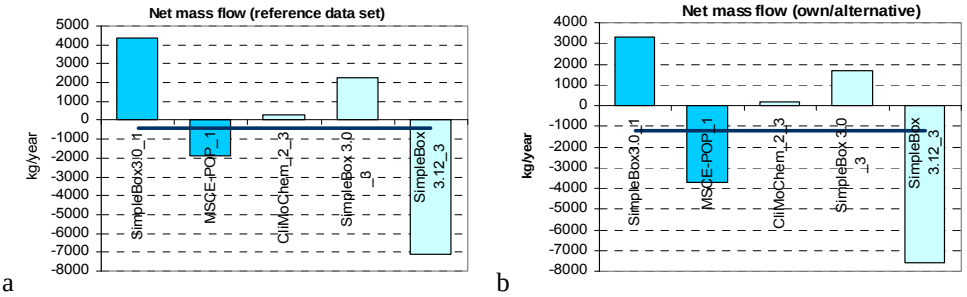
The comparison of PCB-28 mass flows transported from one compartment to another presented in Sections B.4.1-B.4.4 includes results of one-year calculation with zero initial concentrations obtained by CliMoChem, MSCE-POP, SimpleBox models and with initial concentrations in media given as input data calculated by MSCE-POP and SimpleBox models; as well as results of long-term calculations for 20-year period with zero initial data with historical emissions carried out by CliMoChem and SimpleBox models. Results of CliMoChem, MSCE-POP, and SimpleBox models obtained on the basis of two different physical-chemical data sets allow us to reveal sensitivity of the estimates on intermedia mass flows to the variations in the input data.

The comparison of calculated concentrations presented in Sections B.5.1–B.5.6 includes results of one-year calculations made on the basis of initial conditions (MSCE-POP, SimpleBox) and zero initial

concentrations (MSCE-POP and SimpleBox) together with results of long-term calculations performed with historical emissions (SimpleBox B.0 and B.12). The results on concentrations in the main environmental media are obtained with the use of two different physical-chemical data sets by MSCE-POP and SimpleBox models.

In the section below the analysis of mass flows and concentrations in the media is presented for model results obtained on the basis of initial conditions and historical emissions. Calculated values of PCB intermedia mass flows and concentrations in the main media are presented in this section for four following interfaces: atmosphere-soil; vegetation – soil; atmosphere - seawater and atmosphere – vegetation.

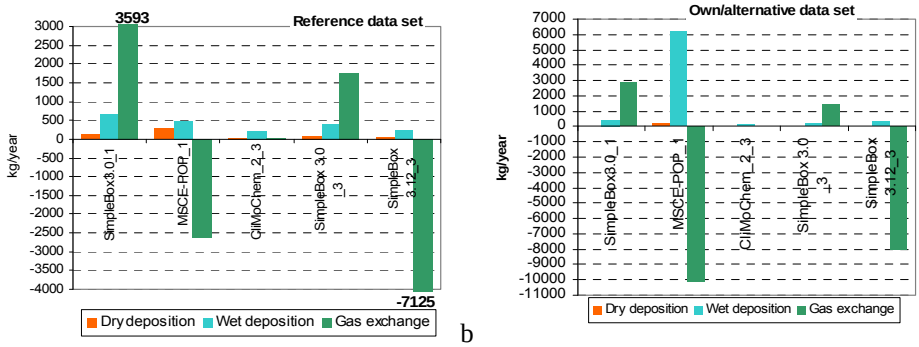
Atmosphere-soil. Annual values of net exchange flow between atmosphere and soil calculated on the basis of two data sets of physical-chemical properties are compared between different models in Fig. B.123. Different colour of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions). The blue line in the plots shows the value of the corresponding parameter averaged between models.



a b

Fig.B.123. *Comparison of PCB-28 annual values of net exchange flow between atmosphere and soil calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Since the net exchange flow is a sum of different types of exchange flows, below the latter are considered separately. Comparison of annual values of dry and wet deposition and gaseous exchange flows between atmosphere and soil calculated by models on the basis of two physical-chemical data sets is presented in Fig. B.124.

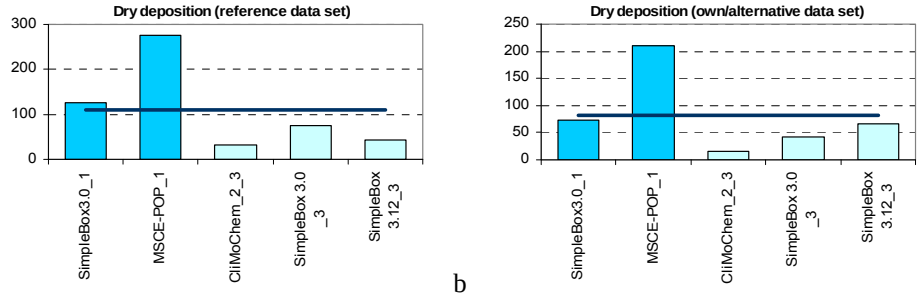


a b

Fig.B.124. *Comparison of PCB-28 annual values of dry and wet deposition and gaseous exchange flows between atmosphere and soil calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets.*

To reveal differences in calculated values obtained on “reference” and “own/alternative” data sets, model results on dry and wet depositions and gaseous exchange between the atmosphere and soil are considered below in more detail.

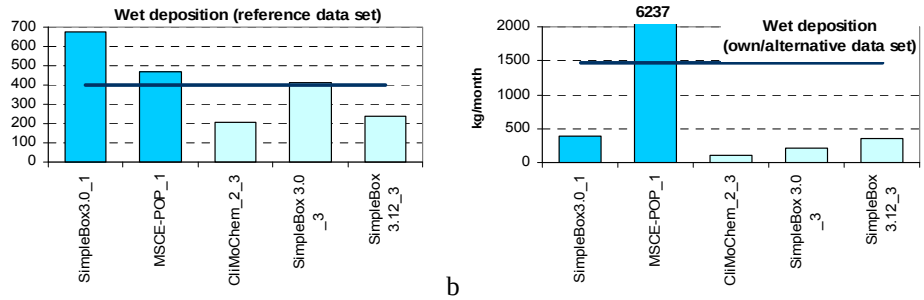
Comparison of annual values of PCB-28 dry deposition from the atmosphere to soil calculated by the models on the basis of “**reference”** and “**own or alternative”** data sets is presented in Fig. B.125. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.125. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to soil: dry deposition (kg/year) calculated by different models on the basis of “reference”(a) and “own or alternative” (b) data sets*

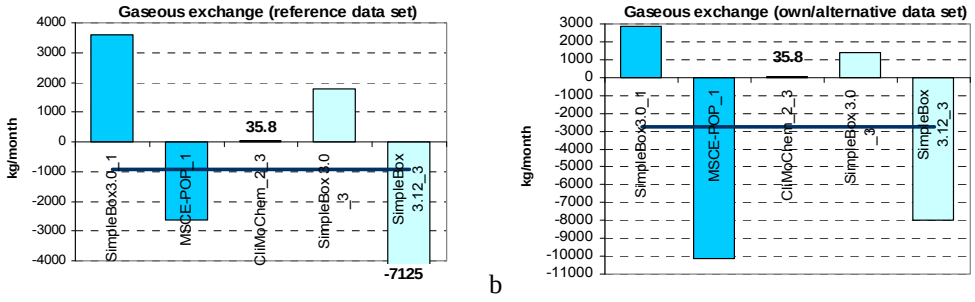
Comparison of annual values of PCB-28 wet deposition mass flows from the atmosphere to soil calculated by the models on the basis of “**reference**” and “**own or alternative**” data sets is presented in Fig.B.126. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.126. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to soil: wet deposition (kg/year) calculated by different models on the basis of “reference”(a) and “own or alternative” (b) data sets*

A comparison of annual values of PCB-28 gaseous exchange between the atmosphere and soil calculated by the models on the basis of “**reference**” and “**own or alternative”** data sets is presented in Fig.B.127. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different colour of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).

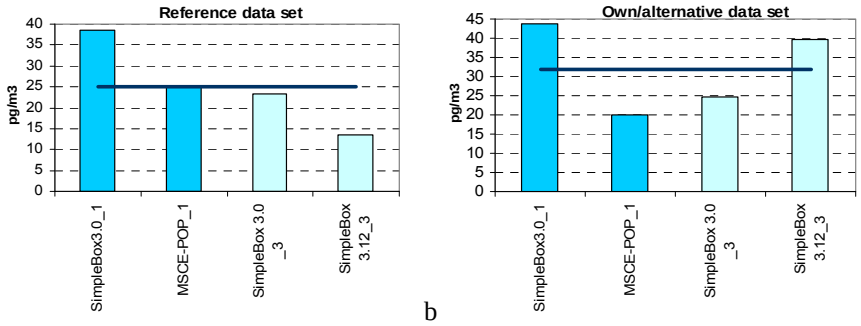


a b

Fig.B.127. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to soil: gaseous exchange (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets.*

Model results on concentrations of PCB-28 in the atmosphere at its interface with soil and in the surface soil layer, which are conditioned by the considered above intermedia flows calculated with "reference" and "own/alternative" data sets are considered below.

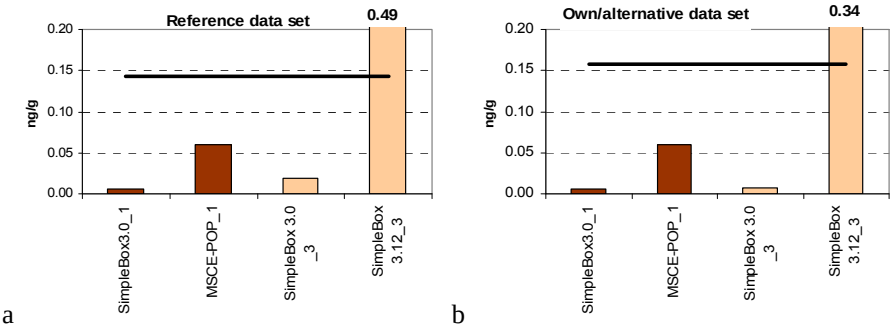
Comparison of annual values of PCB-28 concentration in the atmosphere at its interface with soil calculated by the models on the basis of "reference" and "own or alternative" data set is presented in Fig.B.128. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.128. *Comparison of annual values of PCB-28 concentration in the atmosphere at its interface with soil (pg/m^3) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

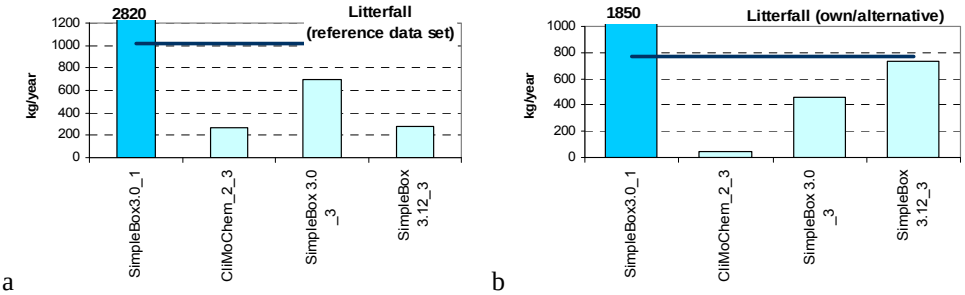
Comparison of annual values of PCB-28 concentration in surface soil layer calculated by the models on the basis of "reference" and "own/alternative" data sets is presented in Fig.B.129. The black line in the plot shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.129. *Comparison of annual values of PCB-28 concentration in surface soil layer (ng/g) calculated by different models on the basis of "reference" (a) and "own or alternative" (b) data sets.*

Vegetation – soil. Comparison of annual values of PCB-28 mass flows from vegetation to soil calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.130. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; then long-tem calculations with historical emissions).



a b

Fig.B.130. *Comparison of annual values of PCB-28 mass flows transported from vegetation to soil (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" data sets (b)*

Comparison of annual values of litterfall mass flows calculated by models on the basis of two physical-chemical data sets is presented in Fig. B.131 (see also Table B.70 given in Section B.4.2).

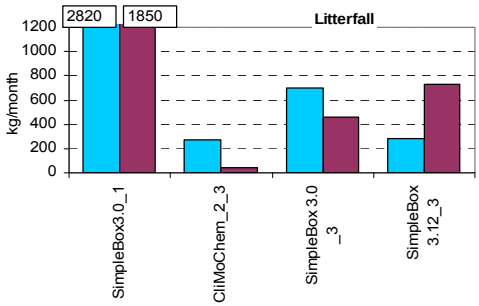
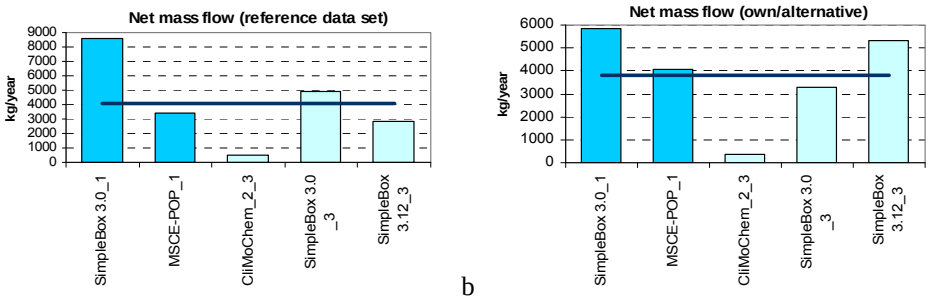


Fig.3.131. *Comparison of PCB-28 annual values of mass flows between vegetation and soil calculated by different models on the basis of two data sets*

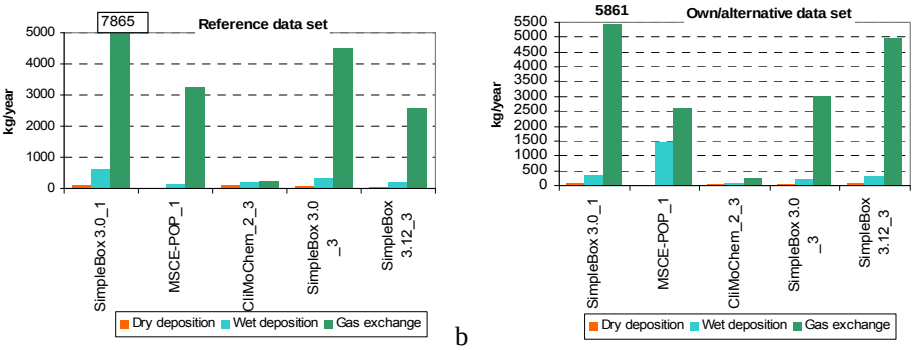
Atmosphere - seawater. Annual values of net exchange flow between atmosphere and seawater calculated on the basis of two data sets are compared between different models in Fig. B.132. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.132. *Comparison of PCB-28 annual values of net exchange flow between atmosphere and seawater calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Annual absolute values of dry and wet deposition and gaseous exchange flows, which formed the considered net exchange flows between the atmosphere and seawater, are compared below. Comparison of annual values of dry and wet deposition and gaseous exchange flows between the atmosphere and seawater calculated by models on the basis of two physical-chemical data sets is presented in Fig. B.133.

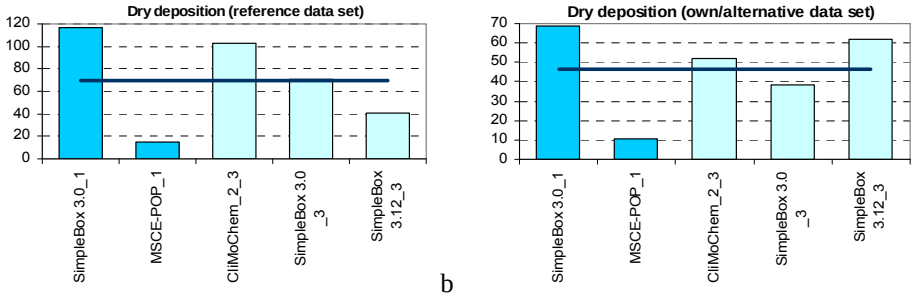


a b

Fig.B.133. *Comparison of PCB-28 annual values of dry and wet deposition and gaseous exchange flows between atmosphere and seawater calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Model results on dry and wet depositions and gaseous exchange between the atmosphere and soil are considered below in more detail.

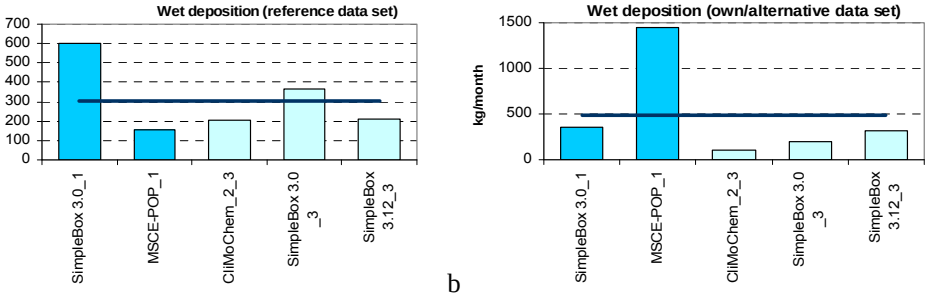
Comparison of annual values of PCB-28 dry deposition mass flows from the atmosphere to water calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.134. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.134. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to water: dry deposition (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

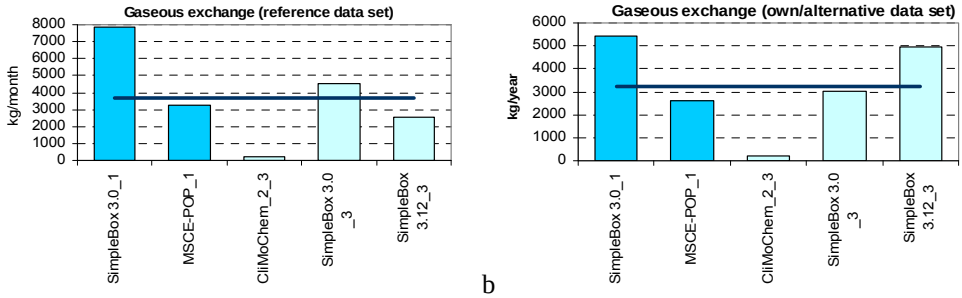
Comparison of annual values of PCB-28 wet deposition mass flows from the atmosphere to water calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.135. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.135. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to water: wet deposition (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Comparison of annual values of PCB-28 gaseous exchange mass flows between the atmosphere and water calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.136. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).

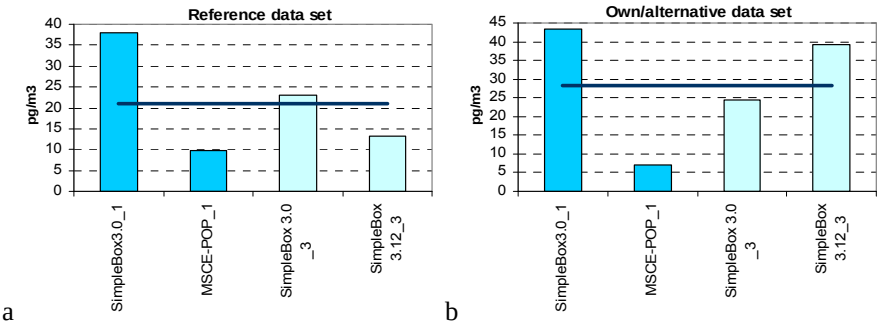


a b

Fig.B.136. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to water: gaseous exchange (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Model results on concentrations of PCB-28 in the atmosphere at its interface with ocean and in the surface water layer, which are conditioned by the considered above intermedia flows calculated with "reference" and "own/alternative" data sets are considered below.

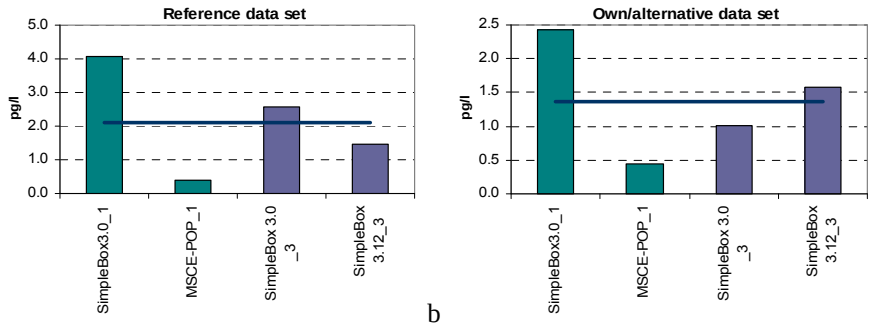
Comparison of annual values of PCB-28 concentration in the atmosphere at its interface with ocean calculated by the models on the basis of "reference" and "own/alternative" data sets is presented in Fig.B.137. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.137. *Comparison of annual values of PCB-28 concentration in the atmosphere at its interface with ocean (pg/m^3) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

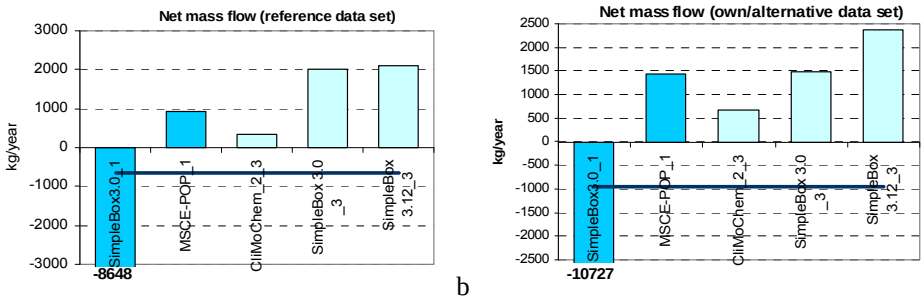
Comparison of annual values of PCB-28 concentration in surface ocean layer calculated by the models on the basis of "reference" and "own/alternative" data sets is presented in Fig.B.138. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.138. *Comparison of annual values of PCB-28 concentration in surface ocean layer (pg/l) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

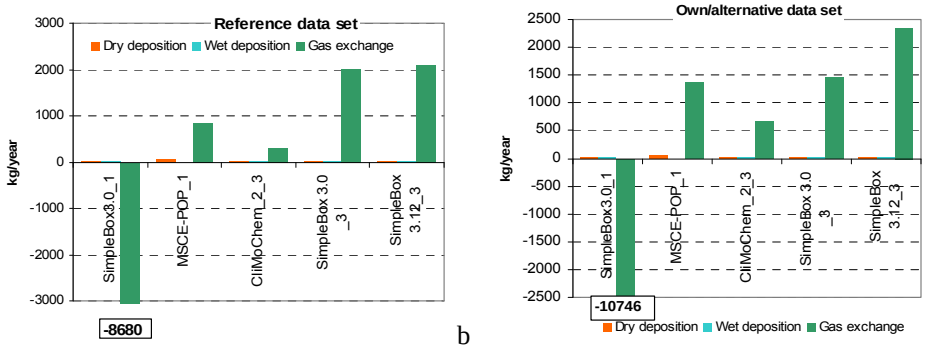
Atmosphere – vegetation. Annual values of net exchange flow between atmosphere and vegetation calculated on the basis of two data sets ("reference" and "own/alternative") are compared between different models in Fig. B.139. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.139. *Comparison of PCB-28 annual values of net exchange flow between atmosphere and vegetation calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Comparison of annual values of dry and wet deposition and gaseous exchange flows between the atmosphere and vegetation calculated by models on the basis of two physical-chemical data sets is presented in Fig. B.140.

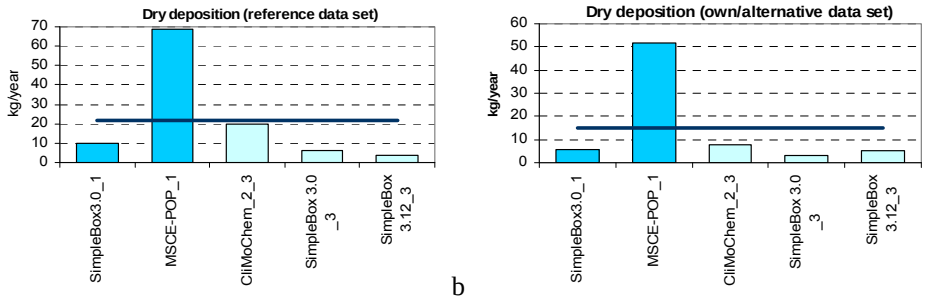


a b

Fig.B.140. *Comparison of PCB-28 annual values of dry and wet deposition and gaseous exchange flows between atmosphere and vegetation calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

To reveal differences in calculated values obtained on "reference" and "own/alternative" data sets, model results on dry and wet depositions and gaseous exchange between the atmosphere and soil are considered below in more detail.

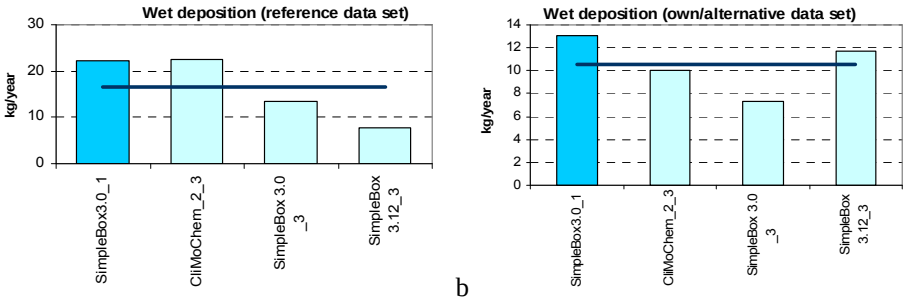
Comparison of annual values of PCB-28 dry deposition mass flows from the atmosphere to vegetation calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.142. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.141. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to vegetation: dry deposition (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

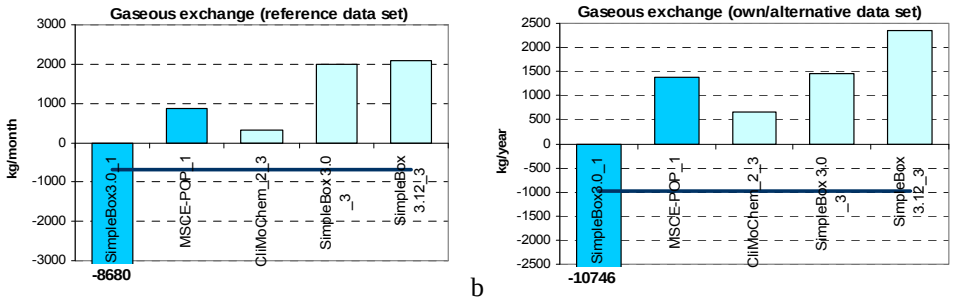
Comparison of annual values of PCB-28 wet deposition mass flows transported from the atmosphere to vegetation calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.142. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.142. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to vegetation: wet deposition (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Comparison of annual values of PCB-28 gaseous exchange mass flows from the atmosphere to vegetation calculated by the models on the basis of "**reference**" and "**own or alternative**" data sets is presented in Fig.B.143. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).

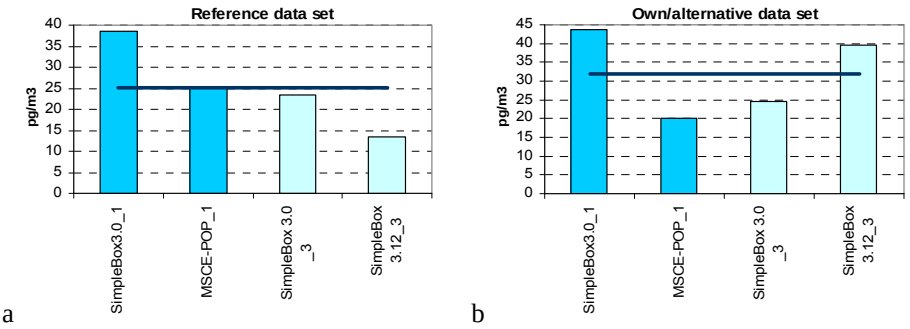


a b

Fig.B.143. *Comparison of annual values of PCB-28 mass flows transported from the atmosphere to vegetation: gaseous exchange (kg/year) calculated by different models on the basis of "reference"(a) and "own or alternative" (b) data sets*

Model results on concentrations of PCB-28 in the atmosphere at its interface with vegetation and in vegetation, which are conditioned by the considered above intermedia flows calculated with “reference” and “own/alternative” data sets are considered below.

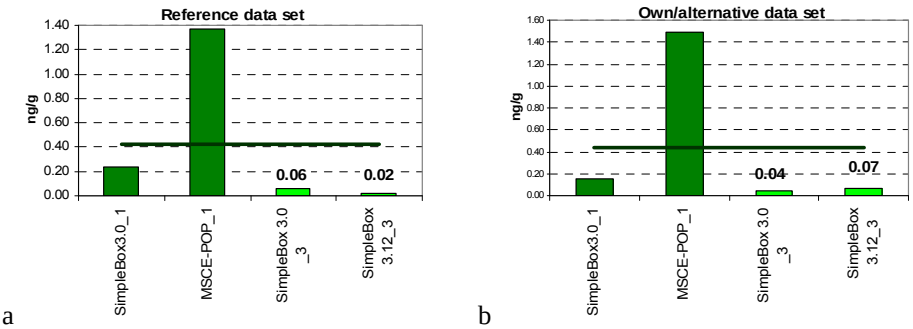
Comparison of annual values of PCB-28 concentration in the atmosphere at its interface with vegetation calculated by the models on the basis of “reference” and ‘own/alternative” data sets is presented in Fig.B.144. The blue line in the plots shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.144. *Comparison of annual values of PCB-28 concentration in the atmosphere at its interface with vegetation (pg/m3) calculated by different models on the basis of “reference”(a) and “own or alternative” (b) data sets*

Comparison of annual values of PCB-28 concentration in vegetation calculated by the models on the basis of “reference” and ‘own/alternative” data sets is presented in Fig.B.145. The green line in the plot shows the value of the corresponding parameter averaged between models. Different color of columns corresponds to the different types of calculations (one-year calculations on the basis of initial data; and then long-tem calculations with historical emissions).



a b

Fig.B.145. *Comparison of annual values of PCB-28 concentration in vegetation (ng/g) calculated by different models on the basis of “reference”(a) and “own or alternative” (b) data sets*

B.6. Spatial distribution of depositions and concentrations in different compartments (optional)

Four models present results on spatial distribution of depositions and concentrations of PCB-28 in different environmental compartments: DEHM-POP, EVN-BETR and UK-MODEL, MSCE-POP and SimpleBox.

Calculated fields of PCB-28 concentrations in the atmosphere, soil, water and vegetation and net deposition fluxes in 2000 obtained by the participating models with the use of two different data sets ("reference" and "own or alternative") are compared below. The results on spatial distribution of PCB-28 deposition and concentrations in the main environmental media are obtained with the use of the two physical-chemical data sets by DEHM-POP, MSCE-POP and different versions of SimpleBox model.

The comparison of calculated deposition and concentration fields presented in Sections B.6.1 and 3.6.2 below includes results of one-year calculations made on the basis of initial conditions (DEHM-POP, EVN-BETR and UK-MODEL, MSCE-POP, SimpleBox), zero initial concentrations (DEHM-POP, EVN-BETR and UK-MODEL, MSCE-POP and SimpleBox) together with results of long-term calculations performed with historical emissions (EVN-BETR and UK-MODEL, SimpleBox 3.0 and 3.12) (See Table B.109). The model results obtained taking into account initial concentrations of pollutants in media and historical emissions, and on the basis of zero initial concentrations in the environmental media are compared in two different groups.