C.4. Mass flows transported from one compartment to another in both directions

C.4.1. Comparison of calculated values of PCB-180 mass flows transported from the atmosphere to soil

Dry deposition

Reference data set. Calculation results on PCB-180 mass flows transported from the atmosphere to soil: dry deposition calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.56.

Monthly values of PCB-180 mass flows transported from the atmosphere to soil: dry deposition 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. C.88 a and b, respectively.

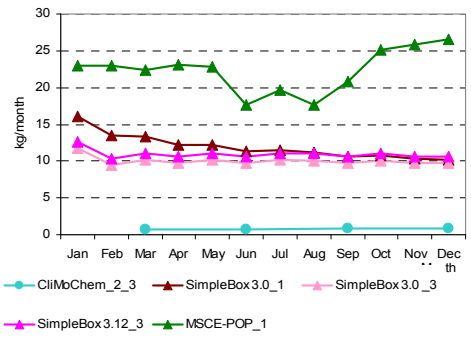


Fig. C.88a. *PCB-180 mass flows transported from the atmosphere to soil: dry deposition (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

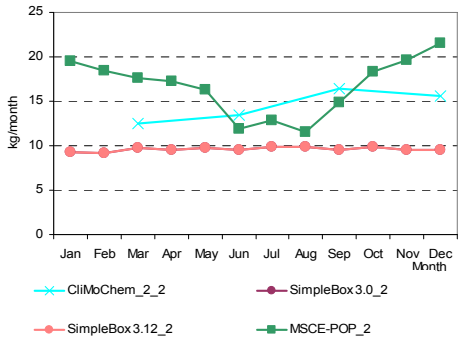


Fig. C.88b. *PCB-180 mass flows transported from the atmosphere to soil: dry deposition (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from the atmosphere to soil: dry deposition calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.57.

Monthly values of PCB-180 mass flows transported from the atmosphere to soil: dry deposition 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. C.89 a and b, respectively.

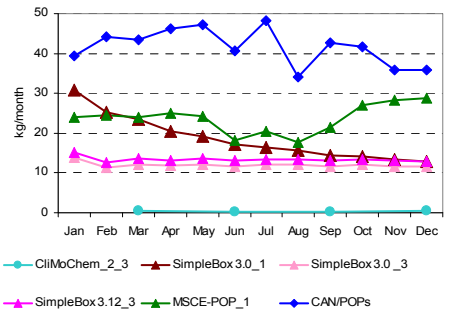


Fig. C.89a. *PCB-180 mass flows transported from the atmosphere to soil: dry deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

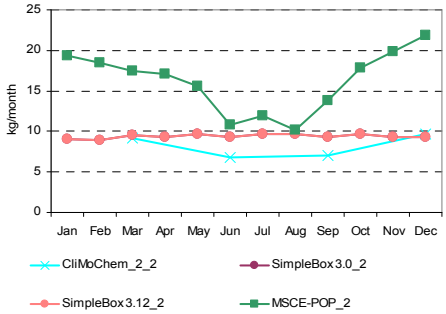


Fig. C.89b. *PCB-180 mass flows transported from the atmosphere to soil: dry deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table C.56. *Calculation results: PCB-180 mass flows transported from the atmosphere to soil: dry deposition (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	16.10	23.00		11.72	12.60	*15.85*	*5.13*	Jan		9.32	9.32	19.50	*12.72*	*5.88*
Feb	13.44	23.00		9.50	10.36	*14.07*	*6.19*	Feb		9.18	9.18	18.50	*12.29*	*5.38*
Mar	13.40	22.40		10.14	11.06	*14.25*	*5.60*	Mar		9.81	9.81	17.60	*12.41*	*4.49*
Seas_1	**42.94**	**68.40**	**1.94**	**31.36**	**34.01**	***35.73***	***23.89***	**Seas_1**	**37.42**	**28.32**	**28.32**	**55.60**	***37.41***	***12.86***
Apr	12.27	23.10		9.81	10.69	*13.97*	*6.17*	Apr		9.50	9.50	17.30	*12.10*	*4.50*
May	12.15	22.80		10.13	11.04	*14.03*	*5.91*	May		9.82	9.82	16.30	*11.98*	*3.74*
Jun	11.36	17.70		9.80	10.67	*12.38*	*3.60*	Jun		9.50	9.50	11.90	*10.30*	*1.38*
Seas_2	**35.78**	**63.60**	**2.08**	**29.74**	**32.40**	***32.72***	***21.86***	**Seas_2**	**40.45**	**28.82**	**28.82**	**45.50**	***35.90***	***8.43***
Jul	11.43	19.60		10.12	11.02	*13.04*	*4.41*	Jul		9.82	9.82	12.80	*10.82*	*1.72*
Aug	11.18	17.60		10.12	11.01	*12.48*	*3.45*	Aug		9.82	9.82	11.60	*10.42*	*1.02*
Sep	10.63	20.80		9.79	10.65	*12.97*	*5.24*	Sep		9.51	9.51	14.90	*11.31*	*3.11*
Seas_3	**33.24**	**58.00**	**2.51**	**30.03**	**32.68**	***31.29***	***19.68***	**Seas_3**	**49.17**	**29.16**	**29.16**	**39.30**	***36.70***	***9.59***
Oct	10.83	25.10		10.11	11.00	*14.26*	*7.24*	Oct		9.83	9.83	18.30	*12.65*	*4.89*
Nov	10.35	25.80		9.78	10.64	*14.14*	*7.78*	Nov		9.51	9.51	19.60	*12.87*	*5.82*
Dec	10.25	26.60		9.78	10.63	*14.32*	*8.20*	Dec		9.51	9.51	21.50	*13.51*	*6.92*
Seas_4	**31.43**	**77.50**	**2.39**	**29.68**	**32.27**	***34.65***	***27.01***	**Seas_4**	**46.88**	**28.85**	**28.85**	**59.40**	***41.00***	***14.93***
Annual	**143.38**	**267.50**	**8.93**	**120.80**	**131.36**	***134.40***	***91.83***	**Annual**	**173.93**	**115.14**	**115.15**	**199.80**	***151.01***	***42.73***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.57. *Calculation results: PCB-180 mass flows transported from the atmosphere to soil: dry deposition (kg/month) 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
	CAN/POPs	SimpleBox 3.0_1a	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3a	SimpleBox 3.12_3a				CliMo Chem_2_2	SimpleBox 3.0_2a	SimpleBox 3.12_2a	MSCE-POP_2		
Jan	39.36	30.75	24.10		13.80	15.11	*24.62*	*10.75*	Jan		9.08	9.08	19.40	*12.52*	*5.96*
Feb	44.28	25.14	24.50		11.40	12.70	*23.61*	*13.22*	Feb		8.97	8.97	18.50	*12.15*	*5.50*
Mar	43.51	23.59	24.00		12.17	13.55	*23.36*	*12.53*	Mar		9.60	9.60	17.50	*12.23*	*4.56*
Seas_1	**127.15**	**79.48**	**72.60**	**1.49**	**37.37**	**41.36**	***59.9***	***43.2***	**Seas_1**	**27.39**	**27.66**	**27.66**	**55.40**	***34.5***	***13.9***
Apr	46.21	20.40	24.90		11.75	13.09	*23.27*	*13.90*	Apr		9.30	9.30	17.10	*11.90*	*4.50*
May	47.17	19.17	24.30		12.13	13.51	*23.26*	*14.21*	May		9.62	9.62	15.60	*11.61*	*3.45*
Jun	40.69	17.12	18.10		11.72	13.06	*20.14*	*11.80*	Jun		9.32	9.32	10.80	*9.81*	*0.86*
Seas_2	**134.07**	**56.68**	**67.30**	**1.06**	**35.61**	**39.67**	***55.7***	***44.5***	**Seas_2**	**20.22**	**28.24**	**28.24**	**43.50**	***30.1***	***9.7***
Jul	48.29	16.53	20.50		12.10	13.49	*22.18*	*14.95*	Jul		9.63	9.63	11.90	*10.39*	*1.31*
Aug	34.11	15.59	17.70		12.09	13.48	*18.59*	*8.93*	Aug		9.64	9.64	10.20	*9.83*	*0.32*
Sep	42.75	14.36	21.50		11.69	13.03	*20.67*	*12.91*	Sep		9.33	9.33	13.80	*10.82*	*2.58*
Seas_3	**125.15**	**46.49**	**59.70**	**1.11**	**35.88**	**39.99**	***51.4***	***41.1***	**Seas_3**	**21.07**	**28.61**	**28.61**	**35.90**	***28.5***	***6.1***
Oct	41.76	14.23	26.90		12.07	13.46	*21.68*	*12.71*	Oct		9.65	9.65	17.90	*12.40*	*4.76*
Nov	35.76	13.27	28.20		11.67	13.01	*20.38*	*10.94*	Nov		9.34	9.34	19.80	*12.83*	*6.04*
Dec	35.97	12.86	28.70		11.66	13.00	*20.44*	*11.17*	Dec		9.34	9.34	21.80	*13.50*	*7.19*
Seas_4	**113.49**	**40.36**	**83.80**	**1.49**	**35.41**	**39.47**	***52.3***	***39.8***	**Seas_4**	**29.01**	**28.33**	**28.33**	**59.50**	***36.3***	***15.5***
Annual	**499.86**	**223.01**	**283.40**	**5.15**	**144.27**	**160.50**	***219.37***	***166.00***	**Annual**	**97.69**	**112.84**	**112.83**	**194.30**	***129.41***	***43.84***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

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 C.58.

Table C.58. *The percentage difference between calculation results on PCB-180 mass flows transported from the atmosphere to soil: dry deposition obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMo Chem_2_2	CliMo Chem_2_3	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			90.9%	-2.6%	-2.6%	17.8%	20.0%	4.8%	-0.5%
Feb			87.1%	-2.3%	-2.3%	20.1%	22.6%	6.5%	0.0%
Mar			76.1%	-2.2%	-2.2%	19.9%	22.5%	7.1%	-0.6%
Seas_1	-26.8%	-23.5%	85.1%	-2.3%	-2.3%	19.2%	21.6%	6.1%	-0.4%
Apr			66.2%	-2.1%	-2.1%	19.8%	22.5%	7.8%	-1.2%
May			57.8%	-2.0%	-2.0%	19.7%	22.4%	6.6%	-4.3%
Jun			50.7%	-2.0%	-2.0%	19.6%	22.4%	2.3%	-9.2%
Seas_2	-50.0%	-49.0%	58.4%	-2.0%	-2.0%	19.7%	22.4%	5.8%	-4.4%
Jul			44.7%	-1.9%	-1.9%	19.6%	22.4%	4.6%	-7.0%
Aug			39.5%	-1.9%	-1.9%	19.5%	22.4%	0.6%	-12.1%
Sep			35.1%	-1.8%	-1.8%	19.4%	22.3%	3.4%	-7.4%
Seas_3	-57.2%	-55.8%	39.9%	-1.9%	-1.9%	19.5%	22.4%	2.9%	-8.7%
Oct			31.4%	-1.8%	-1.8%	19.4%	22.3%	7.2%	-2.2%
Nov			28.2%	-1.8%	-1.8%	19.3%	22.3%	9.3%	1.0%
Dec			25.4%	-1.8%	-1.8%	19.2%	22.3%	7.9%	1.4%
Seas_4	-38.1%	-37.6%	28.4%	-1.8%	-1.8%	19.3%	22.3%	8.1%	0.2%
Annual	-43.8%	-42.3%	55.5%	-2.0%	-2.0%	19.4%	22.2%	5.9%	-2.8%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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.

Wet deposition

Reference data set. Calculation results on PCB-180 mass flows transported from the atmosphere to soil: wet deposition calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.59.

Monthly values of PCB-180 mass flows transported from the atmosphere to soil: wet deposition 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. C.90 a and b, respectively.

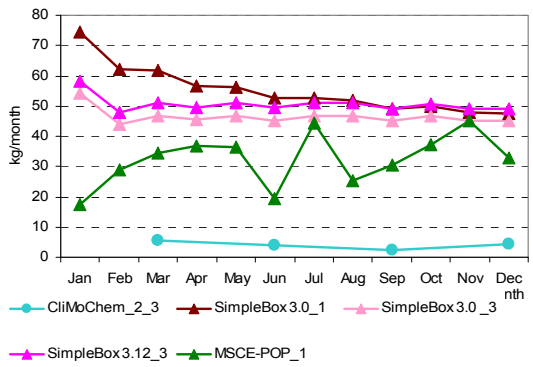


Fig. C.90a. *PCB-180 mass flows transported from the atmosphere to soil: wet deposition (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

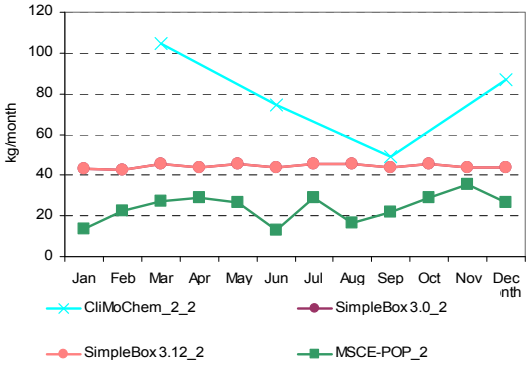


Fig. C.90b. *PCB-180 mass flows transported from the atmosphere to soil: wet deposition (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from the atmosphere to soil: wet deposition calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.60.

Monthly values of PCB-180 mass flows transported from the atmosphere to soil: wet deposition 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. C.91 a and b, respectively.

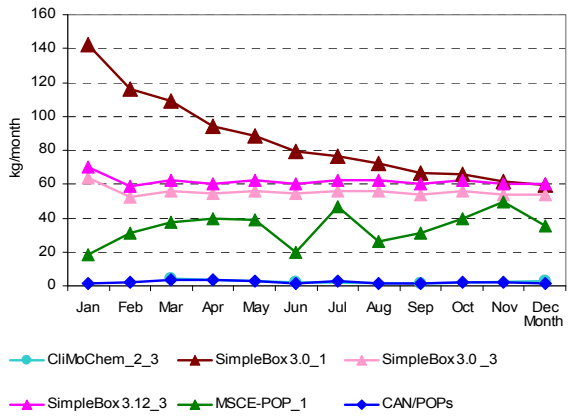


Fig. C.91a. *PCB-180 mass flows transported from the atmosphere to soil: wet deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

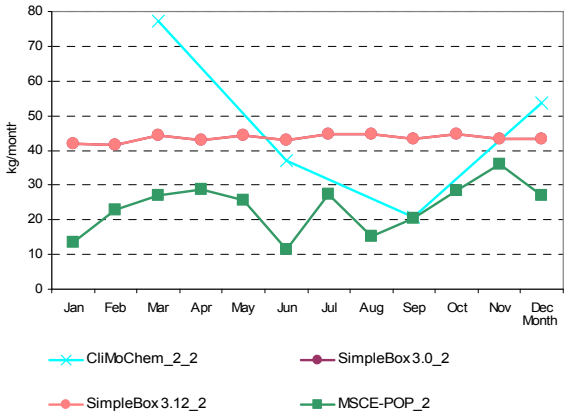


Fig. C.91b. *PCB-180 mass flows transported from the atmosphere to soil: wet deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table C.59. *Calculation results: PCB-180 mass flows transported from the atmosphere to soil: wet deposition (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	MSCE-POP_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]		
Jan	74.49	17.30		54.20	58.25	*51.06*	*24.15*	Jan		13.50	43.11	43.11	*33.24*	*17.10*
Feb	62.14	29.10		43.92	47.89	*45.76*	*13.59*	Feb		22.60	42.44	42.44	*35.83*	*11.46*
Mar	61.98	34.60		46.91	51.14	*48.66*	*11.32*	Mar		26.90	45.39	45.39	*39.22*	*10.67*
Seas_1	**198.60**	**81.00**	**16.34**	**145.02**	**157.28**	***119.65***	***71.52***	**Seas_1**	**314.64**	**63.00**	**130.94**	**130.94**	***159.88***	***108.03***
Apr	56.75	37.00		45.36	49.44	*47.14*	*8.24*	Apr		29.10	43.93	43.93	*38.99*	*8.56*
May	56.17	36.40		46.85	51.04	*47.62*	*8.39*	May		26.50	45.41	45.41	*39.11*	*10.92*
Jun	52.54	19.40		45.31	49.36	*41.65*	*15.13*	Jun		12.80	43.95	43.95	*33.57*	*17.98*
Seas_2	**165.47**	**92.80**	**11.49**	**137.53**	**149.84**	***111.42***	***62.07***	**Seas_2**	**223.52**	**68.40**	**133.30**	**133.30**	***139.63***	***63.75***
Jul	52.85	44.30		46.81	50.96	*48.73*	*3.89*	Jul		29.10	45.43	45.43	*39.99*	*9.43*
Aug	51.70	25.50		46.79	50.93	*43.73*	*12.34*	Aug		16.70	45.43	45.43	*35.86*	*16.59*
Sep	49.16	30.30		45.27	49.26	*43.50*	*8.99*	Sep		22.00	43.97	43.97	*36.65*	*12.68*
Seas_3	**153.71**	**100.10**	**7.50**	**138.86**	**151.15**	***110.27***	***61.32***	**Seas_3**	**146.76**	**67.80**	**134.83**	**134.83**	***121.05***	***35.95***
Oct	50.07	37.20		46.76	50.86	*46.22*	*6.27*	Oct		28.80	45.43	45.44	*39.89*	*9.60*
Nov	47.88	45.30		45.24	49.19	*46.90*	*1.96*	Nov		35.50	43.98	43.98	*41.16*	*4.90*
Dec	47.40	32.90		45.23	49.17	*43.67*	*7.36*	Dec		26.50	43.99	43.99	*38.16*	*10.10*
Seas_4	**145.35**	**115.40**	**13.28**	**137.24**	**149.22**	***112.10***	***56.77***	**Seas_4**	**260.26**	**90.80**	**133.40**	**133.41**	***154.47***	***73.33***
Annual	**663.13**	**389.30**	**48.61**	**558.65**	**607.49**	***453.44***	***248.38***	**Annual**	**945.18**	**290.00**	**532.47**	**532.48**	***575.03***	***271.95***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.60. *Calculation results: PCB-180 mass flows transported from the atmosphere to soil: wet deposition (kg/month) 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
	CAN/POPs	SimpleBox 3.0_1[a]	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	1.72	142.12	18.60		63.78	69.84	*59.21*	*54.69*	Jan		41.96	41.96	13.50	*32.48*	*16.43*
Feb	2.15	116.19	31.30		52.70	58.68	*52.20*	*42.07*	Feb		41.45	41.45	22.70	*35.20*	*10.82*
Mar	3.67	109.05	37.20		56.22	62.61	*53.75*	*38.48*	Mar		44.37	44.37	26.90	*38.54*	*10.08*
Seas_1	**7.54**	**367.36**	**87.10**	**12.55**	**172.69**	**191.13**	***139.7***	***135.6***	**Seas_1**	**231.36**	**127.78**	**127.78**	**63.10**	***137.5***	***69.6***
Apr	3.53	94.28	39.50		54.31	60.51	*50.43*	*33.01*	Apr		42.98	42.98	28.80	*38.26*	*8.19*
May	2.83	88.59	38.80		56.04	62.45	*49.74*	*31.74*	May		44.46	44.45	25.50	*38.14*	*10.94*
Jun	1.63	79.11	19.90		54.17	60.37	*43.03*	*31.53*	Jun		43.05	43.05	11.60	*32.57*	*18.16*
Seas_2	**7.99**	**261.98**	**98.20**	**5.82**	**164.52**	**183.32**	***120.3***	***102.2***	**Seas_2**	**110.96**	**130.49**	**130.49**	**65.90**	***109.5***	***30.5***
Jul	3.07	76.40	47.00		55.91	62.32	*48.94*	*27.79*	Jul		44.51	44.51	27.30	*38.78*	*9.94*
Aug	1.32	72.06	26.20		55.86	62.27	*43.54*	*29.15*	Aug		44.54	44.54	15.10	*34.72*	*17.00*
Sep	1.76	66.39	31.50		54.01	60.21	*42.77*	*26.45*	Sep		43.12	43.12	20.60	*35.61*	*13.00*
Seas_3	**6.14**	**214.84**	**104.70**	**3.28**	**165.79**	**184.80**	***113.3***	***91.5***	**Seas_3**	**62.32**	**132.17**	**132.17**	**63.00**	***97.4***	***40.1***
Oct	2.19	65.76	39.80		55.77	62.17	*45.14*	*25.99*	Oct		44.58	44.58	28.40	*39.18*	*9.34*
Nov	2.24	61.33	49.30		53.93	60.13	*45.39*	*24.61*	Nov		43.16	43.15	35.90	*40.74*	*4.19*
Dec	1.60	59.42	35.60		53.89	60.09	*42.12*	*24.72*	Dec		43.17	43.17	27.00	*37.78*	*9.33*
Seas_4	**6.02**	**186.51**	**124.70**	**8.27**	**163.59**	**182.38**	***111.9***	***84.0***	**Seas_4**	**160.83**	**130.90**	**130.90**	**91.30**	***128.5***	***28.5***
Annual	**27.69**	**1030.69**	**414.70**	**29.93**	**666.59**	**741.63**	***485.2***	***404.4***	**Annual**	**565.48**	**521.35**	**521.34**	**283.30**	***472.87***	***128.08***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

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 C.61.

Table C.61. *The percentage difference between calculation results on PCB-180 mass flows transported from the atmosphere to soil: wet deposition obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMo Chem_2_2	CliMo Chem_2_3	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			90.8%	-2.7%	-2.7%	17.7%	19.9%	7.5%	0.0%
Feb			87.0%	-2.3%	-2.3%	20.0%	22.5%	7.6%	0.4%
Mar			75.9%	-2.2%	-2.2%	19.8%	22.4%	7.5%	0.0%
Seas_1	-26.5%	-23.2%	85.0%	-2.4%	-2.4%	19.1%	21.5%	7.5%	0.2%
Apr			66.1%	-2.2%	-2.2%	19.7%	22.4%	6.8%	-1.0%
May			57.7%	-2.1%	-2.1%	19.6%	22.3%	6.6%	-3.8%
Jun			50.6%	-2.0%	-2.0%	19.5%	22.3%	2.6%	-9.4%
Seas_2	-50.4%	-49.4%	58.3%	-2.1%	-2.1%	19.6%	22.3%	5.8%	-3.7%
Jul			44.6%	-2.0%	-2.0%	19.5%	22.3%	6.1%	-6.2%
Aug			39.4%	-2.0%	-2.0%	19.4%	22.3%	2.7%	-9.6%
Sep			35.0%	-1.9%	-1.9%	19.3%	22.2%	4.0%	-6.4%
Seas_3	-57.5%	-56.2%	39.8%	-2.0%	-2.0%	19.4%	22.3%	4.6%	-7.1%
Oct			31.3%	-1.9%	-1.9%	19.3%	22.2%	7.0%	-1.4%
Nov			28.1%	-1.9%	-1.9%	19.2%	22.2%	8.8%	1.1%
Dec			25.4%	-1.9%	-1.9%	19.1%	22.2%	8.2%	1.9%
Seas_4	-38.2%	-37.7%	28.3%	-1.9%	-1.9%	19.2%	22.2%	8.1%	0.6%
Annual	-40.2%	-38.4%	55.4%	-2.1%	-2.1%	19.3%	22.1%	6.5%	-2.3%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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.

Gaseous exchange

Reference data set. Calculation results on PCB-180 mass flows between the atmosphere and soil: gaseous exchange calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.62.

Monthly values of PCB-180 mass flows between the atmosphere and soil: gaseous exchange 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. C.92 a and b, respectively.

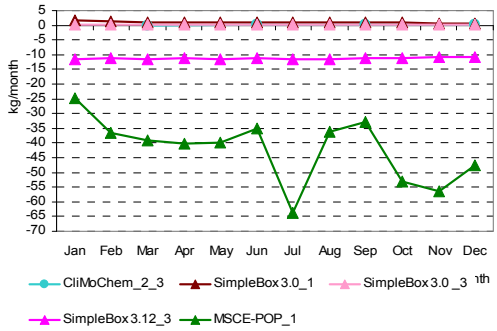


Fig. C.92a. *PCB-180 mass flows between the atmosphere and soil: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (all models)*

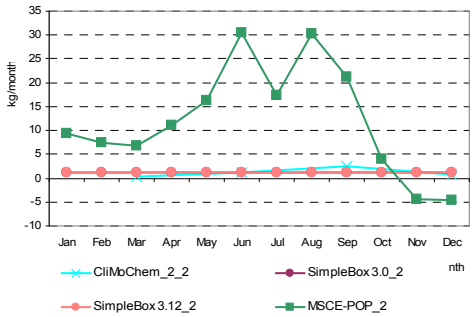


Fig. C.92b. *PCB-180 mass flows between the atmosphere and soil: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows between the atmosphere and soil: gaseous exchange calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.63.

Monthly values of PCB-180 mass flows between the atmosphere and soil: gaseous exchange 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. C.93 a and b, respectively.

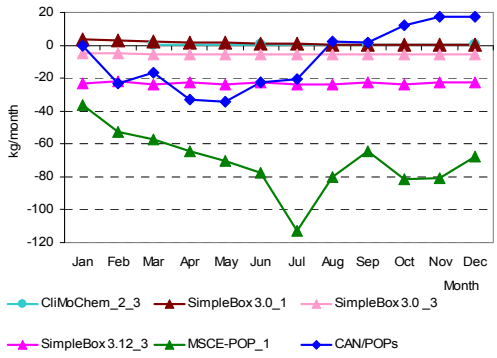


Fig. C.93a. *PCB-180 mass flows between the atmosphere and soil: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

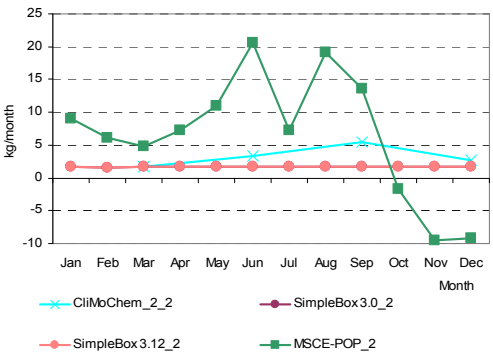


Fig. C.93b. *PCB-180 mass between the atmosphere and soil: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Comparison between results obtained on the basis of two data sets. A comparison of the 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 C.64.

Table C.62. *Calculation results: PCB-180 mass flows between the atmosphere and soil: gaseous exchange (kg/month) 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_1a	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3a	SimpleBox 3.12_3a				CliMoChem_2_2	SimpleBox 3.0_2a	SimpleBox 3.12_2a	MSCE- POP_2		
Jan	1.53	-24.60		0.35	-11.61	*-8.58*	*12.22*	Jan		1.15	1.15	9.45	*3.92*	*4.79*
Feb	1.18	-36.50		0.12	-11.01	*-11.55*	*17.52*	Feb		1.11	1.11	7.48	*3.23*	*3.68*
Mar	1.14	-39.30		0.14	-11.72	*-12.44*	*18.84*	Mar		1.19	1.19	6.69	*3.02*	*3.18*
Seas_1	**3.85**	**-100.40**	**0.07**	**0.61**	**-34.35**	***-26.0***	***44.4***	**Seas_1**	**1.29**	**3.45**	**3.45**	**23.62**	***8.0***	***10.5***
Apr	1.00	-40.10		0.14	-11.28	*-12.56*	*19.19*	Apr		1.15	1.15	11.00	*4.43*	*5.69*
May	0.96	-39.70		0.14	-11.60	*-12.55*	*18.99*	May		1.19	1.18	16.20	*6.19*	*8.67*
Jun	0.88	-34.90		0.14	-11.17	*-11.26*	*16.70*	Jun		1.15	1.14	30.50	*10.93*	*16.95*
Seas_2	**2.85**	**-114.70**	**0.20**	**0.42**	**-34.05**	***-29.1***	***50.3***	**Seas_2**	**3.78**	**3.48**	**3.48**	**57.70**	***17.1***	***27.1***
Jul	0.87	-63.70		0.15	-11.48	*-18.54*	*30.63*	Jul		1.19	1.18	17.30	*6.56*	*9.30*
Aug	0.83	-36.00		0.16	-11.42	*-11.61*	*17.21*	Aug		1.18	1.18	30.30	*10.89*	*16.81*
Sep	0.78	-32.80		0.16	-11.00	*-10.72*	*15.69*	Sep		1.15	1.14	21.20	*7.83*	*11.58*
Seas_3	**2.48**	**-132.50**	**0.38**	**0.46**	**-33.91**	***-32.6***	***57.9***	**Seas_3**	**7.24**	**3.52**	**3.50**	**68.80**	***20.8***	***32.1***
Oct	0.78	-53.00		0.16	-11.31	*-15.84*	*25.39*	Oct		1.18	1.18	4.06	*2.14*	*1.66*
Nov	0.74	-56.30		0.16	-10.89	*-16.57*	*27.02*	Nov		1.14	1.14	-4.37	*-0.70*	*3.18*
Dec	0.73	-47.60		0.17	-10.83	*-14.39*	*22.77*	Dec		1.14	1.14	-4.64	*-0.79*	*3.34*
Seas_4	**2.25**	**-156.90**	**0.13**	**0.49**	**-33.03**	***-37.4***	***68.4***	**Seas_4**	**2.47**	**3.47**	**3.46**	**-4.95**	***1.1***	***4.1***
Annual	**11.43**	**-504.50**	**0.78**	**2.00**	**-135.33**	***-125.13***	***220.62***	**Annual**	**14.78**	**13.92**	**13.88**	**145.17**	*46.94*	*65.49*

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.63. *Calculation results: PCB-180 mass flows between the atmosphere and soil: gaseous exchange (kg/month) 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
	CAN/POPs	SimpleBox 3.0_1[a]	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	-0.44	3.69	-36.30		-5.16	-23.31	*-12.30*	*16.91*	Jan		1.65	1.66	9.05	*4.12*	*4.27*
Feb	-23.34	2.66	-52.80		-5.15	-22.10	*-20.15*	*21.36*	Feb		1.60	1.60	6.09	*3.10*	*2.59*
Mar	-16.92	2.22	-57.50		-5.50	-23.62	*-20.26*	*23.09*	Mar		1.71	1.71	4.81	*2.75*	*1.79*
Seas_1	**-40.70**	**8.57**	**-146.60**	**0.29**	**-15.82**	**-69.03**	***-43.9***	***57.8***	**Seas_1**	**5.28**	**4.97**	**4.97**	**19.95**	***8.79***	***7.44***
Apr	-32.67	1.68	-64.50		-5.33	-22.84	*-24.73*	*26.09*	Apr		1.66	1.66	7.33	*3.55*	*3.27*
May	-34.61	1.36	-70.20		-5.50	-23.59	*-26.51*	*28.29*	May		1.71	1.72	11.00	*4.81*	*5.36*
Jun	-22.49	1.04	-77.70		-5.32	-22.82	*-25.46*	*31.03*	Jun		1.66	1.66	20.60	*7.97*	*10.94*
Seas_2	**-89.77**	**4.08**	**-212.40**	**0.46**	**-16.15**	**-69.25**	***-63.8***	***82.2***	**Seas_2**	**10.20**	**5.03**	**5.03**	**38.93**	***14.80***	***16.27***
Jul	-20.35	0.85	-113.00		-5.50	-23.56	*-32.31*	*46.23*	Jul		1.71	1.71	7.22	*3.55*	*3.18*
Aug	2.61	0.66	-80.40		-5.49	-23.55	*-21.23*	*34.65*	Aug		1.71	1.71	19.20	*7.54*	*10.10*
Sep	1.97	0.50	-64.20		-5.31	-22.78	*-17.96*	*27.65*	Sep		1.65	1.66	13.60	*5.64*	*6.90*
Seas_3	**-15.77**	**2.01**	**-257.60**	**0.59**	**-16.31**	**-69.89**	***-59.5***	***100.5***	**Seas_3**	**16.29**	**5.08**	**5.09**	**40.02**	***16.62***	***16.47***
Oct	12.40	0.40	-81.70		-5.49	-23.52	*-19.58*	*37.06*	Oct		1.71	1.71	-1.63	*0.60*	*1.93*
Nov	17.22	0.28	-80.80		-5.31	-22.75	*-18.27*	*37.76*	Nov		1.65	1.66	-9.57	*-2.09*	*6.48*
Dec	17.64	0.20	-67.90		-5.31	-22.74	*-15.62*	*32.58*	Dec		1.65	1.66	-9.26	*-1.98*	*6.30*
Seas_4	**47.26**	**0.88**	**-230.40**	**0.41**	**-16.10**	**-69.01**	***-44.5***	***98.4***	**Seas_4**	**8.29**	**5.01**	**5.02**	**-20.46**	***-0.53***	***13.37***
Annual	**-98.97**	**15.54**	**-847.00**	**1.75**	**-64.37**	**-277.17**	***-211.71***	***328.48***	**Annual**	**40.06**	**20.09**	**20.12**	**78.44**	***39.68***	***27.50***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.64. *Comparison of the calculation results on PCB-180 mass flows between the atmosphere and soil: gaseous exchange (kg/month) obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets.*

Month	CliMoChem_2_3		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		CliMoChem_2_2	
	ref	own	ref	alt	ref	alt	ref	alt	ref	alt	ref	alt	ref	own	ref	own	ref	own
Jan			1.53	3.69	1.15	**1.65**	1.15	1.66	0.35	-5.16	-11.61	-23.31	-24.60	-36.30	9.45	9.05		
Feb			1.18	2.66	1.11	**1.60**	1.11	1.60	0.12	-5.15	-11.01	-22.10	-36.50	-52.80	7.48	6.09		
Mar			1.14	2.22	1.19	**1.71**	1.19	1.71	0.14	-5.50	-11.72	-23.62	-39.30	-57.50	6.69	4.81		
Seas_1	**0.07**	**0.29**	**3.85**	**8.57**	**3.45**	**4.97**	**3.45**	**4.97**	**0.61**	**-15.82**	**-34.35**	**-69.03**	**-100.40**	**-146.60**	**23.62**	**19.95**	**1.29**	**5.28**
Apr			1.00	1.68	1.15	**1.66**	1.15	1.66	0.14	-5.33	-11.28	-22.84	-40.10	-64.50	11.00	7.33		
May			0.96	1.36	1.19	**1.71**	1.18	1.72	0.14	-5.50	-11.60	-23.59	-39.70	-70.20	16.20	11.00		
Jun			0.88	1.04	1.15	**1.66**	1.14	1.66	0.14	-5.32	-11.17	-22.82	-34.90	-77.70	30.50	20.60		
Seas_2	**0.20**	**0.46**	**2.85**	**4.08**	**3.48**	**5.03**	**3.48**	**5.03**	**0.42**	**-16.15**	**-34.05**	**-69.25**	**-114.70**	**-212.40**	**57.70**	**38.93**	**3.78**	**10.20**
Jul			0.87	0.85	1.19	**1.71**	1.18	1.71	0.15	-5.50	-11.48	-23.56	-63.70	-113.00	17.30	7.22		
Aug			0.83	0.66	1.18	**1.71**	1.18	1.71	0.16	-5.49	-11.42	-23.55	-36.00	-80.40	30.30	19.20		
Sep			0.78	0.50	1.15	**1.65**	1.14	1.66	0.16	-5.31	-11.00	-22.78	-32.80	-64.20	21.20	13.60		
Seas_3	**0.38**	**0.59**	**2.48**	**2.01**	**3.52**	**5.08**	**3.50**	**5.09**	**0.46**	**-16.31**	**-33.91**	**-69.89**	**-132.50**	**-257.60**	**68.80**	**40.02**	**7.24**	**16.29**
Oct			0.78	0.40	1.18	**1.71**	1.18	1.71	0.16	-5.49	-11.31	-23.52	-53.00	-81.70	4.06	-1.63		
Nov			0.74	0.28	1.14	**1.65**	1.14	1.66	0.16	-5.31	-10.89	-22.75	-56.30	-80.80	-4.37	-9.57		
Dec			0.73	0.20	1.14	**1.65**	1.14	1.66	0.17	-5.31	-10.83	-22.74	-47.60	-67.90	-4.64	-9.26		
Seas_4	**0.13**	**0.41**	**2.25**	**0.88**	**3.47**	**5.01**	**3.46**	**5.02**	**0.49**	**-16.10**	**-33.03**	**-69.01**	**-156.90**	**-230.40**	**-4.95**	**-20.46**	**2.47**	**8.29**
Annual	**0.78**	**1.75**	**11.43**	**15.54**	**13.92**	**20.09**	**13.88**	**20.12**	**2.00**	**-64.37**	**-135.33**	**-277.17**	**-504.50**	**-847.00**	**145.17**	**78.44**	**14.78**	**40.06**

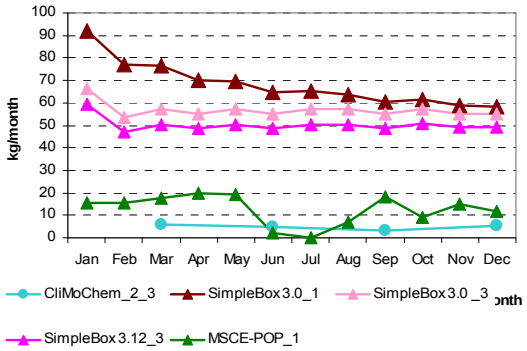
CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
MSCE-POP_1 - MSCE-POP 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.

Net mass flows between the atmosphere and soil

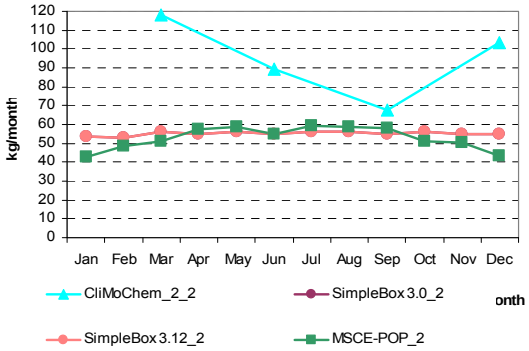
Net mass flows are equal to the total mass flows resulted from summing up of dry and wet depositions and gaseous exchange.

Reference data set. Calculation results on PCB-180 net mass flows between the atmosphere and soil calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.65.

Monthly values of PCB-180 net mass flows between the atmosphere and soil 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. C.94 a and b, respectively.



a



b

Fig. C.94a. *PCB-180 net mass flows between the atmosphere and soil (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (all models)*

Fig. C.94b. *PCB-180 net mass flows between the atmosphere and soil (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Table C.65. *Calculation results: PCB-180 net mass flows between the atmosphere and soil (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	92.12	15.70		66.27	59.23	*58.33*	*31.74*	Jan		53.59	53.59	42.45	*49.88*	*6.43*
Feb	76.76	15.60		53.54	47.24	*48.28*	*25.22*	Feb		52.73	52.73	48.58	*51.35*	*2.40*
Mar	76.51	17.70		57.19	50.48	*50.47*	*24.48*	Mar		56.39	56.39	51.19	*54.66*	*3.00*
Seas_1	**245.40**	**49.00**	**18.35**	**176.99**	**156.95**	***129.34***	***93.91***	**Seas_1**	**353.36**	**162.71**	**162.71**	**142.22**	***205.25***	***99.21***
Apr	70.03	20.00		55.31	48.85	*48.55*	*20.99*	Apr		54.58	54.58	57.40	*55.52*	*1.63*
May	69.28	19.50		57.12	50.48	*49.10*	*21.21*	May		56.42	56.42	59.00	*57.28*	*1.49*
Jun	64.78	2.20		55.26	48.86	*42.78*	*27.83*	Jun		54.60	54.60	55.20	*54.80*	*0.35*
Seas_2	**204.09**	**41.70**	**13.78**	**167.69**	**148.19**	***115.09***	***82.82***	**Seas_2**	**267.76**	**165.60**	**165.60**	**171.60**	***192.64***	***50.16***
Jul	65.14	0.20		57.08	50.50	*43.23*	*29.31*	Jul		56.44	56.44	59.20	*57.36*	*1.60*
Aug	63.71	7.10		57.06	50.52	*44.60*	*25.57*	Aug		56.44	56.44	58.60	*57.16*	*1.25*
Sep	60.57	18.30		55.21	48.91	*45.75*	*18.91*	Sep		54.62	54.62	58.10	*55.78*	*2.01*
Seas_3	**189.43**	**25.60**	**10.39**	**169.36**	**149.93**	***108.94***	***84.36***	**Seas_3**	**203.17**	**167.50**	**167.49**	**175.90**	***178.51***	***16.90***
Oct	61.68	9.30		57.04	50.55	*44.64*	*24.00*	Oct		56.44	56.44	51.16	*54.68*	*3.05*
Nov	58.97	14.80		55.19	48.94	*44.48*	*20.21*	Nov		54.64	54.64	50.73	*53.33*	*2.26*
Dec	58.37	11.90		55.18	48.96	*43.60*	*21.49*	Dec		54.64	54.64	43.36	*50.88*	*6.51*
Seas_4	**179.03**	**36.00**	**15.81**	**167.41**	**148.46**	***109.34***	***77.28***	**Seas_4**	**309.61**	**165.72**	**165.71**	**145.25**	***196.57***	***75.97***
Annual	**817.94**	**152.30**	**58.33**	**681.45**	**603.52**	*462.71*	*336.80*	**Annual**	**1133.90**	**661.53**	**661.51**	**634.97**	***772.98***	***240.94***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates;

C.4.2. Comparison of calculated values of PCB-180 mass flows transported from vegetation to soil: Litterfall

Reference data set. Calculation results on PCB-180 mass flows transported from the vegetation to soil: litterfall calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.66.

Monthly values of PCB-180 mass flows transported from vegetation to soil: litterfall 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. C.95 a and b, respectively. Seasonal variations of low values of mass flows transported from vegetation to soil calculated by the participating models on the basis of "reference" data set and non-zero initial conditions are also shown in Fig. C.95c in more detail.

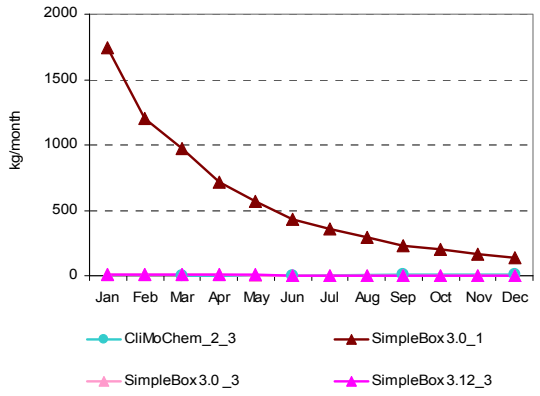


Fig. C.95a. *PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

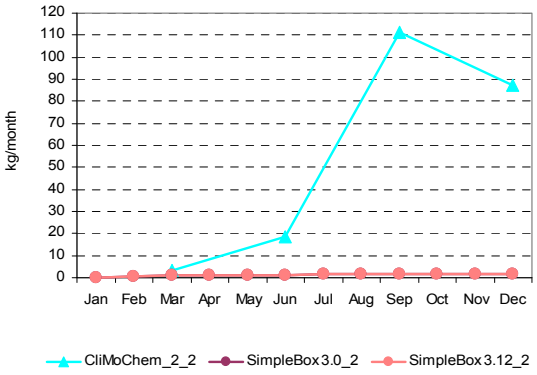


Fig. C.95b. *PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

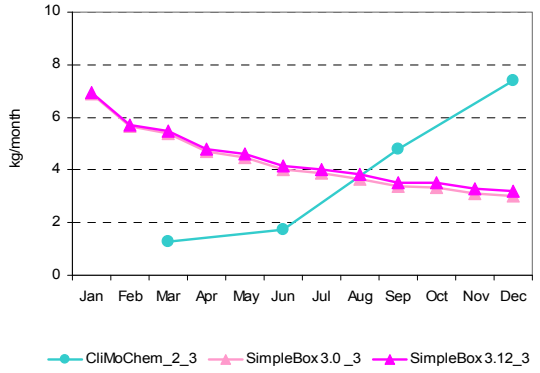
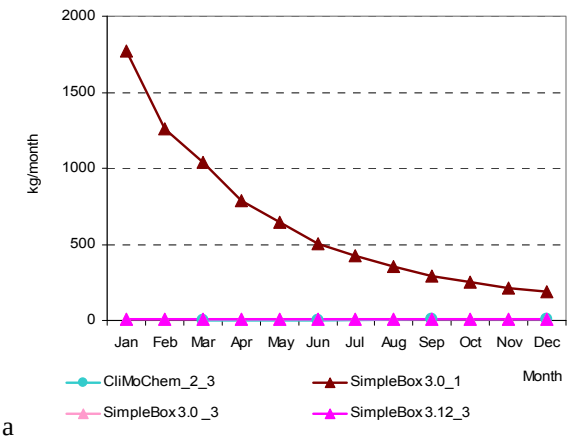


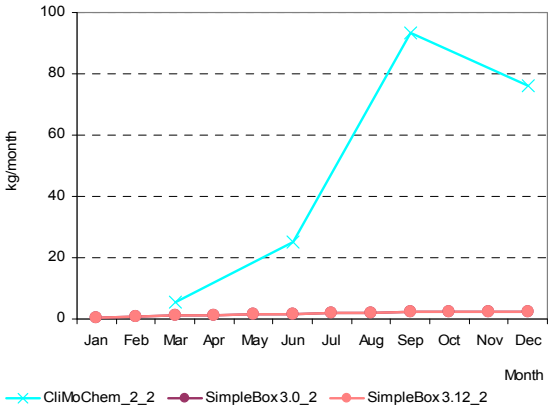
Fig. C.95c. *PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (models with low values)*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from vegetation to soil: litterfall calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.67.

Monthly values of PCB-180 mass flows transported from vegetation to soil: litterfall 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. C.96 a and b, respectively. Seasonal variations of low values of mass flows transported from vegetation to soil calculated by the participating models on the basis of “reference” data set and non-zero initial conditions are also shown in Fig. C.96c in more detail.



a



b

Fig. C.96a. *PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) calculated by the participating models on the basis of “own or alternative” data sets and non-zero initial conditions (all models)*

Fig. C.96b. *PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) calculated by the participating models on the basis of “own or alternative” data sets and zero-initial conditions*

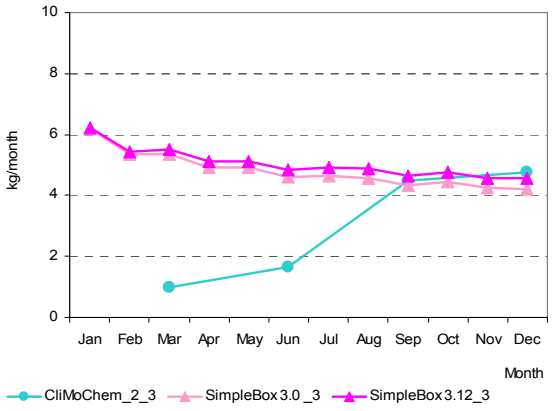


Fig. C.96c. *PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) calculated by the participating models on the basis of “own or alternative” data sets and non-zero initial conditions (models with low values)*

Table C.66. *Calculation results: PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) 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]	CliMoChem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]		
Jan	1744.67		6.91	6.93	*586.17*	*1003.29*	Jan		0.20	0.20	*581.69*	*1007.17*
Feb	1206.19		5.66	5.71	*405.85*	*693.11*	Feb		0.52	0.52	*0.52*	*0.00*
Mar	968.83		5.39	5.47	*326.56*	*556.22*	Mar		0.83	0.83	*0.83*	*0.00*
Seas_1	**3919.68**	**3.82**	**17.97**	**18.11**	***989.90***	***1953.20***	**Seas_1**	**10.15**	**1.55**	**1.55**	***4.42***	***4.96***
Apr	712.54		4.72	4.82	*240.69*	*408.63*	Apr		1.02	1.02	*1.02*	*0.00*
May	569.84		4.47	4.59	*192.97*	*326.38*	May		1.24	1.24	*1.24*	*0.00*
Jun	434.30		4.02	4.14	*147.49*	*248.39*	Jun		1.34	1.34	*1.34*	*0.00*
Seas_2	**1716.68**	**5.27**	**13.21**	**13.55**	***437.18***	***853.01***	**Seas_2**	**55.36**	**3.59**	**3.59**	***20.85***	***29.89***
Jul	359.70		3.89	4.03	*122.54*	*205.39*	Jul		1.50	1.50	*1.50*	*0.00*
Aug	292.04		3.67	3.82	*99.84*	*166.44*	Aug		1.60	1.60	*1.60*	*0.00*
Sep	233.63		3.38	3.53	*80.18*	*132.89*	Sep		1.63	1.63	*1.63*	*0.00*
Seas_3	**885.37**	**14.41**	**10.95**	**11.39**	***230.53***	***436.56***	**Seas_3**	**333.12**	**4.73**	**4.73**	***114.19***	***189.59***
Oct	202.27		3.35	3.51	*69.71*	*114.80*	Oct		1.76	1.76	*1.76*	*0.00*
Nov	165.82		3.11	3.28	*57.40*	*93.89*	Nov		1.76	1.76	*1.76*	*0.00*
Dec	142.20		3.01	3.18	*49.46*	*80.31*	Dec		1.81	1.81	*1.81*	*0.00*
Seas_4	**510.29**	**22.18**	**9.47**	**9.96**	***137.98***	***248.28***	**Seas_4**	**261.83**	**5.33**	**5.33**	***90.83***	***148.09***
Annual	**7032.02**	**45.68**	**51.59**	**53.01**	*1795.58*	*3490.96*	**Annual**	**660.46**	**15.21**	**15.21**	*230.29*	*372.53*

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.67. *Calculation results: PCB-180 mass flows transported from vegetation to soil: litterfall (kg/month) 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_1a	CliMo Chem_2_3	SimpleBox 3.0 _3a	SimpleBox 3.12_3a				CliMo Chem_2_2	SimpleBox 3.0_2a	SimpleBox 3.12_2a		
Jan	1770.31		6.18	6.22	*594.24*	*1018.51*	Jan		0.25	0.25	*0.25*	*0.00*
Feb	1258.80		5.34	5.44	*423.19*	*723.66*	Feb		0.65	0.65	*0.65*	*0.00*
Mar	1038.49		5.36	5.52	*349.79*	*596.43*	Mar		1.06	1.06	*1.06*	*0.00*
Seas_1	**4067.60**	**2.98**	**16.89**	**17.17**	***1026.16***	***2027.64***	**Seas_1**	**16.11**	**1.96**	**1.96**	***6.68***	***8.17***
Apr	783.91		4.94	5.13	*264.66*	*449.69*	Apr		1.31	1.31	*1.31*	*0.00*
May	642.62		4.91	5.14	*217.56*	*368.12*	May		1.60	1.60	*1.60*	*0.00*
Jun	501.44		4.61	4.86	*170.30*	*286.78*	Jun		1.74	1.74	*1.74*	*0.00*
Seas_2	**1927.98**	**4.92**	**14.45**	**15.12**	***490.62***	***958.25***	**Seas_2**	**75.74**	**4.65**	**4.65**	***28.35***	***41.05***
Jul	424.79		4.65	4.93	*144.79*	*242.49*	Jul		1.97	1.97	*1.97*	*0.00*
Aug	352.56		4.56	4.86	*120.66*	*200.83*	Aug		2.12	2.12	*2.12*	*0.00*
Sep	288.07		4.34	4.66	*99.02*	*163.72*	Sep		2.17	2.17	*2.17*	*0.00*
Seas_3	**1065.42**	**13.48**	**13.55**	**14.45**	***276.73***	***525.80***	**Seas_3**	**279.85**	**6.25**	**6.25**	***97.45***	***157.96***
Oct	254.57		4.43	4.77	*87.92*	*144.32*	Oct		2.35	2.35	*2.35*	*0.00*
Nov	212.98		4.25	4.59	*73.94*	*120.41*	Nov		2.36	2.36	*2.36*	*0.00*
Dec	186.27		4.21	4.56	*65.02*	*105.01*	Dec		2.44	2.44	*2.44*	*0.00*
Seas_4	**653.82**	**14.25**	**12.89**	**13.92**	***173.72***	***320.07***	**Seas_4**	**228.28**	**7.16**	**7.15**	***80.86***	***127.66***
Annual	**7714.83**	**35.63**	**57.77**	**60.66**	***1967.22***	***3831.75***	**Annual**	**599.98**	**20.02**	**20.02**	*213.34*	*334.84*

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

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 C.68.

Table C.68. *The percentage difference between calculation results on PCB-180 mass flows transported from vegetation to soil: litterfall obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMoChem_2_2	CliMoChem_2_3	SimpleBox 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0 _3	SimpleBox 3.12_3
Jan			1.5%	24.1%	24.1%	-10.6%	-10.3%
Feb			4.4%	25.7%	25.7%	-5.6%	-4.8%
Mar			7.2%	27.0%	27.0%	-0.6%	0.8%
Seas_1	58.6%	-22.1%	3.8%	26.2%	26.2%	-6.0%	-5.2%
Apr			10.0%	28.3%	28.3%	4.6%	6.4%
May			12.8%	29.3%	29.3%	9.7%	11.9%
Jun			15.5%	30.3%	30.3%	14.6%	17.2%
Seas_2	36.8%	-6.5%	12.3%	29.4%	29.4%	9.4%	11.6%
Jul			18.1%	31.2%	31.2%	19.4%	22.3%
Aug			20.7%	32.1%	32.1%	24.1%	27.2%
Sep			23.3%	32.8%	32.8%	28.4%	31.7%
Seas_3	-16.0%	-6.4%	20.3%	32.1%	32.1%	23.8%	26.9%
Oct			25.9%	33.6%	33.6%	32.5%	36.0%
Nov			28.4%	34.2%	34.2%	36.4%	39.9%
Dec			31.0%	34.9%	34.8%	39.9%	43.6%
Seas_4	-12.8%	-35.8%	28.1%	34.2%	34.2%	36.1%	39.7%
Annual	-9.2%	-22.0%	9.7%	31.6%	31.6%	12.0%	14.4%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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.

C.4.3. Comparison of calculated values of PCB-180 mass flows transported from the atmosphere to water

Dry deposition

Reference data set. Calculation results on PCB-180 mass flows transported from the atmosphere to water: dry deposition calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.69.

Monthly values of PCB-180 mass flows transported from the atmosphere to water: dry deposition 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. C.97 a and b, respectively.

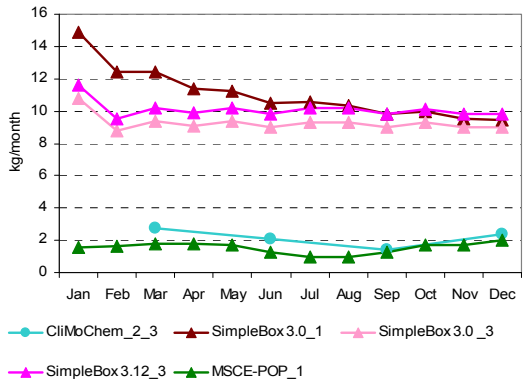


Fig. C.97a. *PCB-180 mass flows transported from the atmosphere to water: dry deposition (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

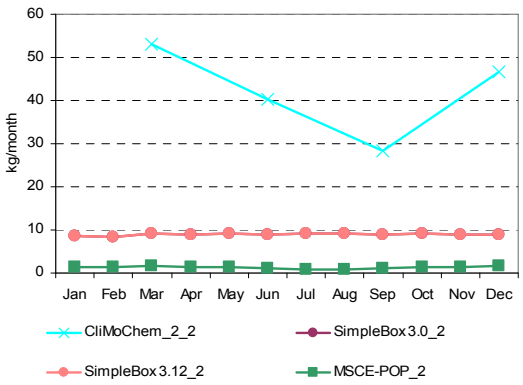


Fig. C.97b. *PCB-180 mass flows transported from the atmosphere to water: dry deposition (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from the atmosphere to water: dry deposition calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.70.

Monthly values of PCB-180 mass flows transported from the atmosphere to water: dry deposition 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. C.98 a and b, respectively.

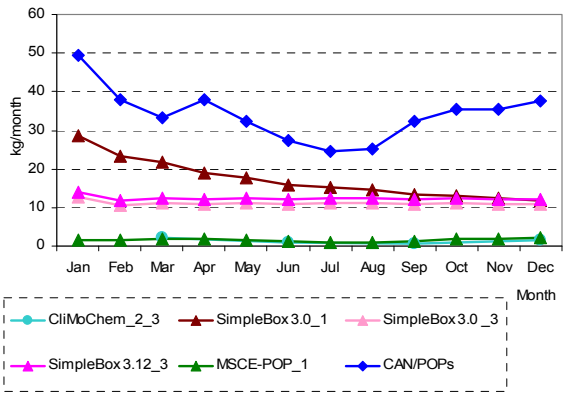


Fig. C.98a. *PCB-180 mass flows transported from the atmosphere to water: dry deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions (all models)*

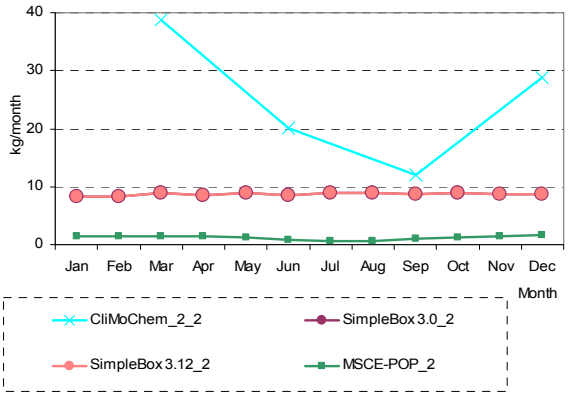


Fig. C.98b. *PCB-180 mass flows transported from the atmosphere to water: dry deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table C.69. *Calculation results: PCB-180 mass flows transported from the atmosphere to water: dry deposition (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	14.91	1.60		10.82	11.64	*9.74*	*5.71*	Jan		8.59	8.59	1.39	*6.19*	*4.16*
Feb	12.43	1.63		8.76	9.56	*8.09*	*4.59*	Feb		8.46	8.46	1.40	*6.11*	*4.08*
Mar	12.40	1.82		9.35	10.21	*8.44*	*4.60*	Mar		9.05	9.05	1.57	*6.56*	*4.32*
Seas_1	**39.74**	**5.05**	**8.27**	**28.93**	**31.40**	***22.68***	***15.21***	**Seas_1**	**159.08**	**26.10**	**26.10**	**4.36**	***53.91***	***70.86***
Apr	11.35	1.80		9.05	9.87	*8.02*	*4.25*	Apr		8.76	8.76	1.51	*6.34*	*4.18*
May	11.23	1.68		9.34	10.19	*8.11*	*4.36*	May		9.05	9.05	1.40	*6.50*	*4.42*
Jun	10.50	1.23		9.04	9.85	*7.65*	*4.32*	Jun		8.76	8.76	0.98	*6.17*	*4.49*
Seas_2	**33.08**	**4.71**	**6.22**	**27.42**	**29.90**	***20.27***	***13.67***	**Seas_2**	**120.94**	**26.57**	**26.57**	**3.89**	***44.49***	***52.07***
Jul	10.56	0.96		9.33	10.17	*7.76*	*4.56*	Jul		9.06	9.06	0.77	*6.30*	*4.78*
Aug	10.33	0.95		9.33	10.16	*7.69*	*4.51*	Aug		9.06	9.06	0.76	*6.29*	*4.79*
Sep	9.82	1.29		9.03	9.83	*7.49*	*4.15*	Sep		8.77	8.77	1.02	*6.18*	*4.47*
Seas_3	**30.71**	**3.21**	**4.34**	**27.69**	**30.17**	***19.22***	***14.16***	**Seas_3**	**84.83**	**26.88**	**26.88**	**2.55**	***35.28***	***34.96***
Oct	10.00	1.68		9.32	10.15	*7.79*	*4.09*	Oct		9.06	9.06	1.31	*6.48*	*4.47*
Nov	9.56	1.74		9.02	9.82	*7.53*	*3.88*	Nov		8.77	8.77	1.41	*6.32*	*4.25*
Dec	9.46	1.99		9.02	9.81	*7.57*	*3.73*	Dec		8.77	8.77	1.71	*6.42*	*4.08*
Seas_4	**29.02**	**5.41**	**7.16**	**27.37**	**29.78**	***19.75***	***12.34***	**Seas_4**	**140.16**	**26.60**	**26.60**	**4.43**	***49.45***	***61.37***
Annual	**132.55**	**18.38**	**25.98**	**111.41**	**121.25**	*81.91*	*55.11*	**Annual**	**505.00**	**106.15**	**106.15**	**15.23**	*183.13*	*218.82*

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.70. *Calculation results: PCB-180 mass flows transported from the atmosphere to water: dry deposition (kg/month) 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
	CAN/POPs	SimpleBox 3.0_1a	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3a	SimpleBox 3.12_3a				CliMo Chem_2_2	SimpleBox 3.0_2a	SimpleBox 3.12_2a	MSCE-POP_2		
Jan	49.46	28.55	1.65		12.75	13.96	*21.27*	*18.43*	Jan		8.37	8.37	1.38	*6.04*	*4.04*
Feb	37.90	23.34	1.69		10.52	11.72	*17.03*	*13.97*	Feb		8.27	8.27	1.38	*5.97*	*3.98*
Mar	33.14	21.91	1.88		11.23	12.51	*16.13*	*11.86*	Mar		8.85	8.85	1.55	*6.42*	*4.22*
Seas_1	**120.50**	**73.80**	**5.22**	**6.32**	**34.50**	**38.18**	***46.42***	***44.16***	**Seas_1**	**116.43**	**25.50**	**25.50**	**4.31**	***42.93***	***50.01***
Apr	37.94	18.94	1.87		10.85	12.08	*16.34*	*13.52*	Apr		8.58	8.58	1.48	*6.21*	*4.10*
May	32.28	17.79	1.70		11.19	12.47	*15.09*	*11.23*	May		8.87	8.87	1.33	*6.36*	*4.35*
Jun	27.35	15.88	1.22		10.82	12.06	*13.46*	*9.45*	Jun		8.59	8.59	0.91	*6.03*	*4.44*
Seas_2	**97.57**	**52.61**	**4.79**	**3.17**	**32.85**	**36.61**	***37.93***	***34.95***	**Seas_2**	**60.45**	**26.04**	**26.04**	**3.72**	***29.06***	***23.42***
Jul	24.42	15.33	0.94		11.17	12.45	*12.86*	*8.44*	Jul		8.88	8.88	0.71	*6.16*	*4.72*
Aug	25.10	14.46	0.91		11.15	12.44	*12.81*	*8.64*	Aug		8.89	8.89	0.67	*6.15*	*4.75*
Sep	32.42	13.32	1.29		10.79	12.03	*13.97*	*11.35*	Sep		8.61	8.61	0.95	*6.05*	*4.42*
Seas_3	**81.94**	**43.11**	**3.14**	**1.92**	**33.11**	**36.91**	***33.35***	***29.56***	**Seas_3**	**36.34**	**26.38**	**26.38**	**2.32**	***22.86***	***14.47***
Oct	35.38	13.19	1.75		11.14	12.42	*14.78*	*12.41*	Oct		8.90	8.90	1.27	*6.35*	*4.40*
Nov	35.36	12.30	1.86		10.77	12.01	*14.46*	*12.45*	Nov		8.61	8.61	1.41	*6.21*	*4.16*
Dec	37.68	11.91	2.10		10.76	12.00	*14.89*	*13.39*	Dec		8.62	8.62	1.72	*6.32*	*3.98*
Seas_4	**108.42**	**37.39**	**5.71**	**4.47**	**32.67**	**36.42**	***37.51***	***37.83***	**Seas_4**	**86.73**	**26.13**	**26.13**	**4.40**	***35.85***	***35.44***
Annual	**408.43**	**206.92**	**18.86**	**15.88**	**133.13**	**148.13**	***155.22***	***145.14***	**Annual**	**299.96**	**104.05**	**104.05**	**14.75**	***130.70***	***120.43***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

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 C.71.

Table C.71. *The percentage difference between calculation results on PCB-180 mass flows transported from the atmosphere to water: dry deposition obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMo Chem_2_2	CliMo Chem_2_3	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			91.4%	-2.6%	-2.6%	17.8%	20.0%	3.1%	-0.7%
Feb			87.8%	-2.2%	-2.2%	20.2%	22.6%	3.7%	-1.4%
Mar			76.7%	-2.1%	-2.1%	20.0%	22.5%	3.3%	-1.3%
Seas_1	-26.8%	-23.5%	85.7%	-2.3%	-2.3%	19.2%	21.6%	3.4%	-1.1%
Apr			66.9%	-2.0%	-2.1%	19.9%	22.5%	3.9%	-2.0%
May			58.4%	-2.0%	-2.0%	19.8%	22.4%	1.2%	-5.0%
Jun			51.3%	-1.9%	-1.9%	19.7%	22.4%	-0.8%	-7.8%
Seas_2	-50.0%	-49.0%	59.0%	-2.0%	-2.0%	19.8%	22.4%	1.7%	-4.5%
Jul			45.2%	-1.9%	-1.9%	19.6%	22.4%	-2.2%	-8.7%
Aug			40.0%	-1.9%	-1.9%	19.6%	22.3%	-4.5%	-11.4%
Sep			35.6%	-1.8%	-1.8%	19.5%	22.3%	0.0%	-7.0%
Seas_3	-57.2%	-55.8%	40.4%	-1.9%	-1.9%	19.6%	22.3%	-2.0%	-8.8%
Oct			31.9%	-1.8%	-1.8%	19.4%	22.3%	4.2%	-3.1%
Nov			28.6%	-1.8%	-1.8%	19.4%	22.3%	6.9%	0.0%
Dec			25.9%	-1.7%	-1.7%	19.3%	22.3%	5.5%	0.6%
Seas_4	-38.1%	-37.6%	28.9%	-1.8%	-1.8%	19.4%	22.3%	5.5%	-0.7%
Annual	-40.6%	-38.9%	56.1%	-2.0%	-2.0%	19.5%	22.2%	2.6%	-3.2%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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.

Wet deposition

Reference data set. Calculation results on PCB-180 mass flows transported from the atmosphere to water: wet deposition calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.72.

Monthly values of PCB-180 mass flows transported from the atmosphere to water: wet deposition 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. C.99 a and b, respectively.

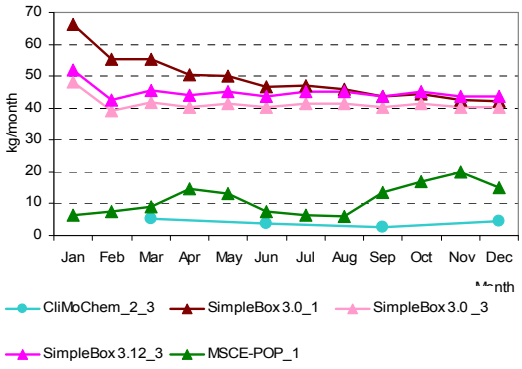


Fig. C.99a. *PCB-180 mass flows transported from the atmosphere to water: wet deposition (kg/month) calculated by the participating models on the basis of "reference data set" and non-zero initial conditions*

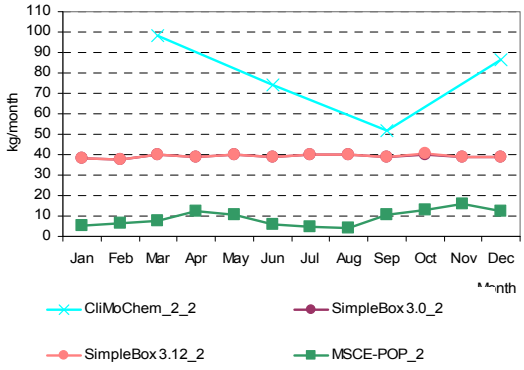


Fig. C.99b. *PCB-180 mass flows transported from the atmosphere to water: wet deposition (kg/month) calculated by the participating models on the basis of "reference data set" and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from the atmosphere to water: wet deposition calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.73.

Monthly values of PCB-180 mass flows transported from the atmosphere to water: wet deposition 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. C.100 a and b, respectively.

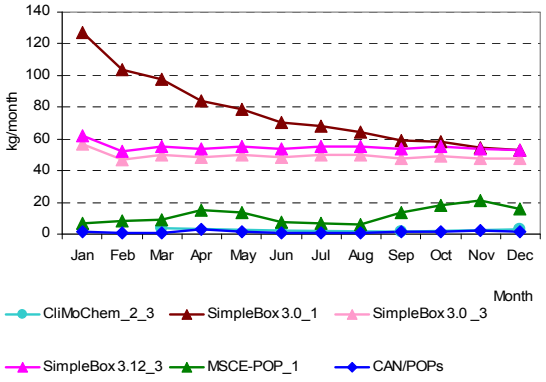


Fig. C.100a. *PCB-180 mass flows transported from the atmosphere to water: wet deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

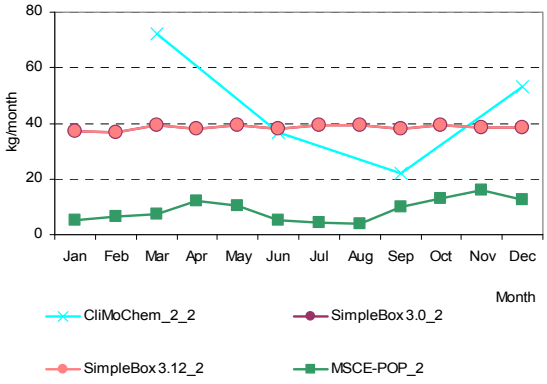


Fig. C.100b. *PCB-180 mass flows transported from the atmosphere to water: wet deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

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 C.74.

Gaseous exchange

Reference data set. Calculation results on PCB-180 mass flows between the atmosphere and water: gaseous exchange calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.75.

Monthly values of PCB-180 mass flows between the atmosphere and water: gaseous exchange 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. C.101 a and b, respectively.

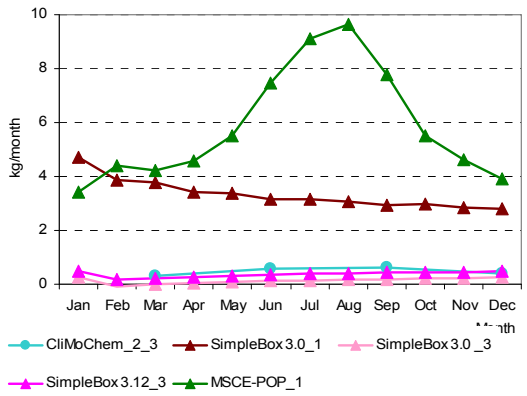


Fig. C.101a. *PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

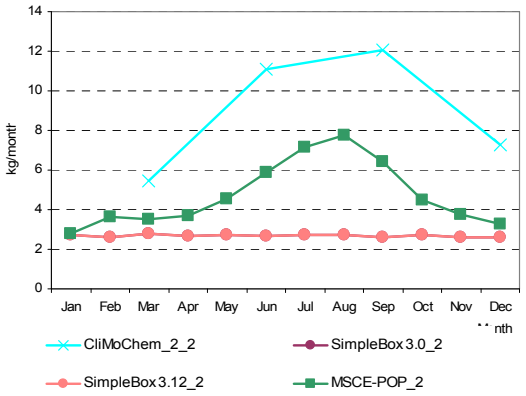


Fig. C.101b. *PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Table C.72. *Calculation results: PCB-180 mass flows between the atmosphere and water: wet deposition (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0 _3	SimpleBox 3.12_3				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	66.34	6.38		48.13	51.77	*43.15*	*25.75*	Jan		38.22	38.22	5.44	*27.29*	*18.93*
Feb	55.30	7.71		38.96	42.52	*36.12*	*20.20*	Feb		37.64	37.64	6.36	*27.21*	*18.06*
Mar	55.15	8.88		41.61	45.40	*37.76*	*20.08*	Mar		40.25	40.25	7.61	*29.37*	*18.85*
Seas_1	**176.79**	**22.97**	**15.33**	**128.70**	**139.69**	***96.69***	***73.05***	**Seas_1**	**295.19**	**116.11**	**116.11**	**19.41**	***136.71***	***115.07***
Apr	50.49	14.70		40.24	43.89	*37.33*	*15.67*	Apr		38.96	38.96	12.40	*30.11*	*15.34*
May	49.96	13.20		41.56	45.32	*37.51*	*16.56*	May		40.28	40.28	10.80	*30.45*	*17.02*
Jun	46.72	7.41		40.20	43.82	*34.54*	*18.28*	Jun		38.98	38.98	5.74	*27.90*	*19.19*
Seas_2	**147.16**	**35.31**	**11.44**	**121.99**	**133.03**	***89.79***	***61.86***	**Seas_2**	**222.54**	**118.21**	**118.21**	**28.94**	***121.98***	***79.16***
Jul	46.98	6.31		41.52	45.25	*35.01*	*19.27*	Jul		40.29	40.29	4.83	*28.47*	*20.47*
Aug	45.95	5.96		41.50	45.22	*34.66*	*19.23*	Aug		40.29	40.29	4.34	*28.31*	*20.76*
Sep	43.68	13.40		40.15	43.73	*35.24*	*14.66*	Sep		38.99	38.99	10.50	*29.50*	*16.45*
Seas_3	**136.61**	**25.67**	**7.96**	**123.18**	**134.19**	***85.52***	***63.24***	**Seas_3**	**155.64**	**119.57**	**119.58**	**19.67**	***103.61***	***58.49***
Oct	44.48	16.90		41.48	45.16	*37.00*	*13.50*	Oct		40.29	40.30	13.20	*31.26*	*15.64*
Nov	42.53	19.80		40.13	43.68	*36.53*	*11.25*	Nov		39.01	39.01	15.90	*31.30*	*13.34*
Dec	42.09	15.00		40.12	43.65	*35.22*	*13.55*	Dec		39.01	39.01	12.60	*30.21*	*15.25*
Seas_4	**129.10**	**51.70**	**13.22**	**121.74**	**132.48**	***89.65***	***54.09***	**Seas_4**	**259.11**	**118.31**	**118.32**	**41.70**	***134.36***	***90.67***
Annual	**589.66**	**135.65**	**47.95**	**495.60**	**539.40**	***361.65***	***250.50***	**Annual**	**932.48**	**472.21**	**472.22**	**109.72**	*496.66*	*337.07*

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.73. *Calculation results: PCB-180 mass flows between the atmosphere and water: wet deposition (kg/month) 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
	CAN/POPs	SimpleBox 3.0_1a	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3a	SimpleBox 3.12_3a				CliMo Chem_2_2	SimpleBox 3.0_2a	SimpleBox 3.12_2a	MSCE-POP_2		
Jan	1.29	126.90	6.63		56.66	62.05	*50.71*	*50.88*	Jan		*37.21*	*37.21*	5.39	*26.60*	*18.37*
Feb	1.07	103.75	8.12		46.78	52.09	*42.36*	*41.11*	Feb		*36.77*	*36.77*	6.33	*26.62*	*17.57*
Mar	0.97	97.37	9.22		49.90	55.59	*42.61*	*38.95*	Mar		*39.36*	*39.36*	7.54	*28.75*	*18.37*
Seas_1	**3.32**	**328.01**	**23.97**	**11.78**	**153.34**	**169.73**	***115.02***	***127.48***	**Seas_1**	***217.05***	***113.34***	***113.34***	**19.26**	***115.75***	***80.80***
Apr	3.37	84.17	15.20		48.21	53.71	*40.93*	*32.24*	Apr		*38.13*	*38.13*	12.30	*29.52*	*14.91*
May	1.42	79.08	13.50		49.74	55.43	*39.83*	*31.82*	May		*39.44*	*39.44*	10.30	*29.73*	*16.82*
Jun	0.74	70.60	7.53		48.08	53.59	*36.11*	*30.44*	Jun		*38.19*	*38.19*	5.38	*27.26*	*18.95*
Seas_2	**5.54**	**233.85**	**36.23**	**5.79**	**146.03**	**162.74**	***98.36***	***95.73***	**Seas_2**	***110.47***	***115.76***	***115.76***	**27.98**	***92.49***	***43.08***
Jul	0.54	68.16	6.47		49.63	55.32	*36.02*	*30.51*	Jul		*39.49*	*39.49*	4.54	*27.84*	*20.18*
Aug	0.71	64.27	6.04		49.58	55.28	*35.18*	*29.56*	Aug		*39.51*	*39.51*	3.97	*27.66*	*20.52*
Sep	1.31	59.20	13.70		47.94	53.45	*35.12*	*25.89*	Sep		*38.26*	*38.25*	9.93	*28.81*	*16.35*
Seas_3	**2.56**	**191.63**	**26.21**	**3.48**	**147.15**	**164.05**	***89.18***	***87.49***	**Seas_3**	***66.09***	***117.26***	***117.26***	**18.44**	***79.76***	***47.47***
Oct	1.70	58.62	17.80		49.50	55.19	*36.56*	*25.34*	Oct		*39.55*	*39.55*	12.90	*30.66*	*15.38*
Nov	1.89	54.66	21.20		47.87	53.37	*35.80*	*23.31*	Nov		*38.29*	*38.29*	16.00	*30.86*	*12.87*
Dec	1.30	52.93	16.00		47.83	53.34	*34.28*	*24.07*	Dec		*38.30*	*38.30*	12.70	*29.77*	*14.78*
Seas_4	**4.90**	**166.21**	**55.00**	**8.24**	**145.20**	**161.90**	***90.24***	***76.39***	**Seas_4**	***160.13***	***116.13***	***116.13***	**41.60**	***108.50***	***49.18***
Annual	**16.31**	**919.71**	**141.41**	**29.29**	**591.72**	**658.41**	***392.81***	***380.75***	**Annual**	***553.75***	***462.49***	***462.48***	**107.28**	***396.50***	***197.55***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.74. *The percentage difference between calculation results on PCB-180 mass flows between the atmosphere and water: wet deposition obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMo Chem_2_2	CliMo Chem_2_3	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			91.3%	-2.6%	-2.6%	17.7%	19.9%	3.9%	-0.9%
Feb			87.6%	-2.3%	-2.3%	20.1%	22.5%	5.3%	-0.5%
Mar			76.6%	-2.2%	-2.2%	19.9%	22.4%	3.8%	-0.9%
Seas_1	-26.5%	-23.2%	85.5%	-2.4%	-2.4%	19.1%	21.5%	4.4%	-0.8%
Apr			66.7%	-2.1%	-2.1%	19.8%	22.4%	3.4%	-0.8%
May			58.3%	-2.1%	-2.1%	19.7%	22.3%	2.3%	-4.6%
Jun			51.1%	-2.0%	-2.0%	19.6%	22.3%	1.6%	-6.3%
Seas_2	-50.4%	-49.4%	58.9%	-2.1%	-2.1%	19.7%	22.3%	2.6%	-3.3%
Jul			45.1%	-2.0%	-2.0%	19.5%	22.3%	2.5%	-6.0%
Aug			39.9%	-1.9%	-1.9%	19.5%	22.2%	1.3%	-8.5%
Sep			35.5%	-1.9%	-1.9%	19.4%	22.2%	2.2%	-5.4%
Seas_3	-57.5%	-56.2%	40.3%	-1.9%	-1.9%	19.5%	22.2%	2.1%	-6.3%
Oct			31.8%	-1.9%	-1.9%	19.3%	22.2%	5.3%	-2.3%
Nov			28.5%	-1.8%	-1.9%	19.3%	22.2%	7.1%	0.6%
Dec			25.8%	-1.8%	-1.8%	19.2%	22.2%	6.7%	0.8%
Seas_4	-38.2%	-37.7%	28.7%	-1.8%	-1.8%	19.3%	22.2%	6.4%	-0.2%
Annual	-40.6%	-38.9%	56.0%	-2.1%	-2.1%	19.4%	22.1%	4.2%	-2.2%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Own/alternative data set. Calculation results on PCB-180 mass flows between the atmosphere and water: gaseous exchange calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.76.

Monthly values of PCB-180 mass flows between the atmosphere and water: gaseous exchange 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. C.102 a and b, respectively.

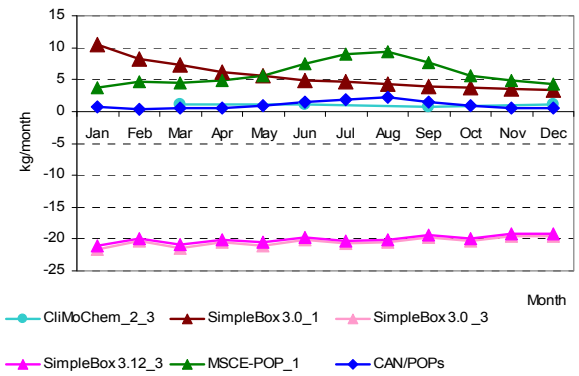


Fig. C.102a. *PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

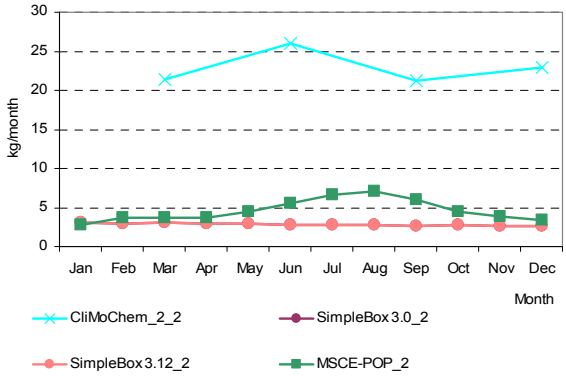


Fig. C.102b. *PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Comparison between results obtained on the basis of two data sets. A comparison of the 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 C.77.

Table C.75. *Calculation results: PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	4.70	3.41		0.26	0.51	*2.22*	*2.19*	Jan		2.72	2.72	2.77	*2.74*	*0.03*
Feb	3.85	4.39		-0.09	0.16	*2.08*	*2.37*	Feb		2.64	2.64	3.62	*2.96*	*0.57*
Mar	3.79	4.23		-0.02	0.23	*2.06*	*2.26*	Mar		2.79	2.79	3.52	*3.03*	*0.42*
Seas_1	**12.33**	**12.03**	**0.89**	**0.15**	**0.90**	***5.26***	***6.33***	**Seas_1**	**16.38**	**8.14**	**8.14**	**9.91**	***10.64***	***3.91***
Apr	3.44	4.56		0.04	0.28	*2.08*	*2.27*	Apr		2.68	2.68	3.67	*3.01*	*0.57*
May	3.38	5.49		0.08	0.33	*2.32*	*2.59*	May		2.75	2.75	4.57	*3.36*	*1.05*
Jun	3.14	7.47		0.12	0.35	*2.77*	*3.42*	Jun		2.65	2.65	5.89	*3.73*	*1.87*
Seas_2	**9.96**	**17.52**	**1.76**	**0.24**	**0.96**	***6.09***	***7.50***	**Seas_2**	**33.19**	**8.07**	**8.07**	**14.13**	***15.86***	***11.90***
Jul	3.15	9.09		0.15	0.39	*3.20*	*4.16*	Jul		2.72	2.72	7.18	*4.21*	*2.57*
Aug	3.07	9.64		0.18	0.42	*3.33*	*4.41*	Aug		2.71	2.71	7.78	*4.40*	*2.92*
Sep	2.91	7.77		0.20	0.42	*2.83*	*3.52*	Sep		2.62	2.62	6.43	*3.89*	*2.20*
Seas_3	**9.13**	**26.50**	**1.87**	**0.53**	**1.23**	***7.85***	***10.99***	**Seas_3**	**36.11**	**8.06**	**8.06**	**21.39**	***18.41***	***13.37***
Oct	2.96	5.49		0.22	0.46	*2.28*	*2.47*	Oct		2.70	2.70	4.51	*3.30*	*1.04*
Nov	2.82	4.61		0.24	0.46	*2.03*	*2.08*	Nov		2.61	2.61	3.77	*3.00*	*0.67*
Dec	2.79	3.91		0.25	0.47	*1.86*	*1.79*	Dec		2.60	2.60	3.26	*2.82*	*0.38*
Seas_4	**8.57**	**14.01**	**1.17**	**0.71**	**1.39**	***5.17***	***5.91***	**Seas_4**	**21.85**	**7.91**	**7.91**	**11.54**	***12.31***	***6.59***
Annual	**40.01**	**70.06**	**5.69**	**1.63**	**4.47**	***24.37***	***29.97***	**Annual**	**107.54**	**32.18**	**32.19**	**56.97**	***57.22***	***35.52***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.76. *Calculation results: PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) 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
	CAN/POPs	SimpleBox 3.0_1[a]	MSCE- POP_1	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	0.67	10.52	3.69		-21.54	-21.10	*-5.55*	*14.83*	Jan		3.10	3.10	2.84	*3.01*	*0.15*
Feb	0.39	8.16	4.73		-20.27	-19.85	*-5.37*	*13.69*	Feb		2.92	2.92	3.71	*3.19*	*0.45*
Mar	0.57	7.33	4.57		-21.39	-20.96	*-5.98*	*14.08*	Mar		3.03	3.03	3.62	*3.23*	*0.34*
Seas_1	**1.63**	**26.01**	**12.99**	**3.22**	**-63.20**	**-61.91**	***-13.54***	***38.95***	**Seas_1**	**64.29**	**9.05**	**9.05**	**10.17**	***23.14***	***27.44***
Apr	0.53	6.11	4.86		-20.49	-20.08	*-5.81*	*13.37*	Apr		2.86	2.86	3.69	*3.14*	*0.48*
May	0.87	5.57	5.67		-20.98	-20.57	*-5.89*	*13.73*	May		2.90	2.90	4.46	*3.42*	*0.90*
Jun	1.45	4.86	7.45		-20.15	-19.76	*-5.23*	*13.61*	Jun		2.76	2.76	5.48	*3.67*	*1.57*
Seas_2	**2.85**	**16.55**	**17.98**	**3.53**	**-61.62**	**-60.41**	***-13.52***	***37.33***	**Seas_2**	**77.78**	**8.51**	**8.51**	**13.63**	***27.11***	***33.87***
Jul	1.80	4.61	8.97		-20.68	-20.28	*-5.12*	*14.26*	Jul		2.81	2.81	6.65	*4.09*	*2.21*
Aug	2.22	4.28	9.34		-20.55	-20.16	*-4.97*	*14.28*	Aug		2.78	2.78	7.11	*4.23*	*2.50*
Sep	1.50	3.90	7.73		-19.78	-19.40	*-5.21*	*13.31*	Sep		2.67	2.67	6.07	*3.80*	*1.96*
Seas_3	**5.53**	**12.79**	**26.04**	**2.27**	**-61.02**	**-59.85**	***-12.37***	***38.11***	**Seas_3**	**63.50**	**8.27**	**8.27**	**19.83**	***24.97***	***26.26***
Oct	0.96	3.82	5.68		-20.33	-19.94	*-5.96*	*13.05*	Oct		2.74	2.74	4.44	*3.30*	*0.98*
Nov	0.54	3.54	4.88		-19.57	-19.20	*-5.96*	*12.36*	Nov		2.63	2.63	3.81	*3.02*	*0.68*
Dec	0.49	3.40	4.21		-19.48	-19.11	*-6.10*	*12.13*	Dec		2.61	2.61	3.38	*2.87*	*0.44*
Seas_4	**1.99**	**10.76**	**14.77**	**3.32**	**-59.38**	**-58.26**	***-14.47***	***34.68***	**Seas_4**	**68.61**	**7.98**	**7.98**	**11.63**	***24.05***	***29.76***
Annual	**11.99**	**66.11**	**71.78**	**12.35**	**-245.23**	**-240.42**	***-53.90***	***148.54***	**Annual**	**274.18**	**33.81**	**33.81**	**55.26**	***99.27***	***117.05***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.77. *Comparison of the calculation results on PCB-180 mass flows between the atmosphere and water: gaseous exchange (kg/month) obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMoChem_2_3		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		CliMoChem_2_2	
	ref	own	ref	alt	ref	alt	ref	alt	ref	alt	ref	alt	ref	own	ref	own	ref	own
Jan			4.70	10.52	2.72	3.10	2.72	3.10	0.26	-21.54	0.51	-21.10	3.41	3.69	2.77	2.84		
Feb			3.85	8.16	2.64	2.92	2.64	2.92	-0.09	-20.27	0.16	-19.85	4.39	4.73	3.62	3.71		
Mar			3.79	7.33	2.79	3.03	2.79	3.03	-0.02	-21.39	0.23	-20.96	4.23	4.57	3.52	3.62		
Seas_1	**0.89**	**3.22**	**12.33**	**26.01**	**8.14**	**9.05**	**8.14**	**9.05**	**0.15**	**-63.20**	**0.90**	**-61.91**	**12.03**	**12.99**	**9.91**	**10.17**	**16.38**	**64.29**
Apr			3.44	6.11	2.68	2.86	2.68	2.86	0.04	-20.49	0.28	-20.08	4.56	4.86	3.67	3.69		
May			3.38	5.57	2.75	2.90	2.75	2.90	0.08	-20.98	0.33	-20.57	5.49	5.67	4.57	4.46		
Jun			3.14	4.86	2.65	2.76	2.65	2.76	0.12	-20.15	0.35	-19.76	7.47	7.45	5.89	5.48		
Seas_2	**1.76**	**3.53**	**9.96**	**16.55**	**8.07**	**8.51**	**8.07**	**8.51**	**0.24**	**-61.62**	**0.96**	**-60.41**	**17.52**	**17.98**	**14.13**	**13.63**	**33.19**	**77.78**
Jul			3.15	4.61	2.72	2.81	2.72	2.81	0.15	-20.68	0.39	-20.28	9.09	8.97	7.18	6.65		
Aug			3.07	4.28	2.71	2.78	2.71	2.78	0.18	-20.55	0.42	-20.16	9.64	9.34	7.78	7.11		
Sep			2.91	3.90	2.62	2.67	2.62	2.67	0.20	-19.78	0.42	-19.40	7.77	7.73	6.43	6.07		
Seas_3	**1.87**	**2.27**	**9.13**	**12.79**	**8.06**	**8.27**	**8.06**	**8.27**	**0.53**	**-61.02**	**1.23**	**-59.85**	**26.50**	**26.04**	**21.39**	**19.83**	**36.11**	**63.50**
Oct			2.96	3.82	2.70	2.74	2.70	2.74	0.22	-20.33	0.46	-19.94	5.49	5.68	4.51	4.44		
Nov			2.82	3.54	2.61	2.63	2.61	2.63	0.24	-19.57	0.46	-19.20	4.61	4.88	3.77	3.81		
Dec			2.79	3.40	2.60	2.61	2.60	2.61	0.25	-19.48	0.47	-19.11	3.91	4.21	3.26	3.38		
Seas_4	**1.17**	**3.32**	**8.57**	**10.76**	**7.91**	**7.98**	**7.91**	**7.98**	**0.71**	**-59.38**	**1.39**	**-58.26**	**14.01**	**14.77**	**11.54**	**11.63**	**21.85**	**68.61**
Annual	**5.69**	**12.35**	**40.01**	**66.11**	**32.18**	**33.81**	**32.19**	**33.81**	**1.63**	**-245.23**	**4.47**	**-240.42**	**70.06**	**71.78**	**56.97**	**55.26**	**107.54**	**274.18**

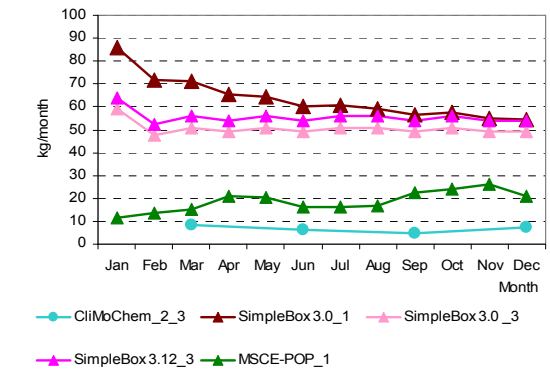
CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
MSCE-POP_1 - MSCE-POP 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;

Net mass flows between the atmosphere and water

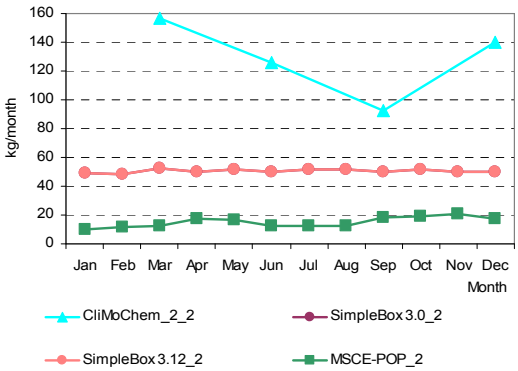
Net mass flows are equal to the total mass flows resulted from summing up of dry and wet depositions and gaseous exchange.

Reference data set. Calculation results on PCB-180 net mass flows PCB-180 between the atmosphere and water calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.78.

Monthly values of PCB-180 net mass flows PCB-180 net mass flows between the atmosphere and water (kg/month) calculated by the 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. C.103 a and b, respectively.



a



b

Fig. C.103a. *PCB-180 net mass flows between the atmosphere and water (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

Fig. C.103b. *PCB-180 net mass flows between the atmosphere and water (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Table C.78. *Calculation results: PCB-180 net mass flows between the atmosphere and water (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	85.94	11.39		59.21	63.91	*55.11*	*31.39*	Jan		49.53	49.53	9.60	*36.22*	*23.05*
Feb	71.58	13.73		47.63	52.24	*46.29*	*24.06*	Feb		48.74	48.74	11.38	*36.28*	*21.57*
Mar	71.34	14.93		50.94	55.84	*48.26*	*23.86*	Mar		52.09	52.09	12.70	*38.96*	*22.74*
Seas_1	**228.86**	**40.05**	**24.48**	**157.78**	**171.99**	***124.63***	***88.59***	**Seas_1**	**470.65**	**150.35**	**150.36**	**33.68**	***201.26***	***187.83***
Apr	65.28	21.06		49.32	54.04	*47.42*	*18.81*	Apr		50.39	50.40	17.58	*39.46*	*18.95*
May	64.56	20.37		50.98	55.83	*47.94*	*19.22*	May		52.08	52.08	16.77	*40.31*	*20.38*
Jun	60.36	16.11		49.35	54.02	*44.96*	*19.76*	Jun		50.38	50.38	12.61	*37.79*	*21.81*
Seas_2	**190.20**	**57.54**	**19.42**	**149.65**	**163.89**	***116.14***	***73.62***	**Seas_2**	**376.67**	**152.86**	**152.86**	**46.96**	***182.34***	***138.84***
Jul	60.69	16.36		51.00	55.81	*45.97*	*20.13*	Jul		52.07	52.07	12.78	*38.97*	*22.68*
Aug	59.35	16.55		51.01	55.79	*45.68*	*19.71*	Aug		52.07	52.07	12.88	*39.00*	*22.63*
Sep	56.41	22.46		49.38	53.98	*45.56*	*15.67*	Sep		50.38	50.38	17.95	*39.57*	*18.72*
Seas_3	**176.45**	**55.38**	**14.17**	**151.39**	**165.59**	***112.59***	***73.06***	**Seas_3**	**276.58**	**154.51**	**154.52**	**43.61**	***157.30***	***95.16***
Oct	57.44	24.07		51.03	55.76	*47.08*	*15.58*	Oct		52.05	52.06	19.02	*41.04*	*19.07*
Nov	54.91	26.15		49.39	53.95	*46.10*	*13.52*	Nov		50.38	50.39	21.08	*40.62*	*16.92*
Dec	54.34	20.90		49.40	53.94	*44.64*	*15.99*	Dec		50.38	50.38	17.57	*39.45*	*18.94*
Seas_4	**166.70**	**71.12**	**21.55**	**149.81**	**163.65**	***114.57***	***65.02***	**Seas_4**	**421.12**	**152.82**	**152.83**	**57.67**	***196.11***	***156.57***
Annual	**762.22**	**224.09**	**79.62**	**608.64**	**665.12**	***467.94***	***298.13***	**Annual**	**1545.02**	**610.54**	**610.56**	**181.92**	***737.01***	***575.32***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;
a - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates;

C.4.4. Comparison of calculated values of PCB-180 mass flows transported from the atmosphere to vegetation

Dry deposition

Reference data set. Calculation results on PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.79.

Monthly values of PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition 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. C.104 a and b, respectively.

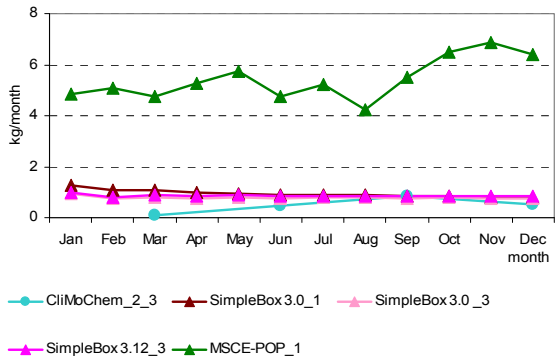


Fig. C.104a. *PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions*

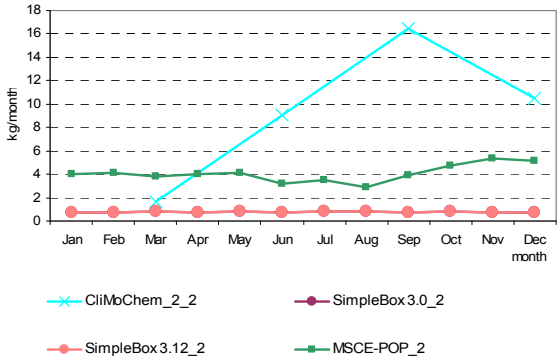


Fig. C.104b. *PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.80.

Monthly values of PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition 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. C.105 a and b, respectively.

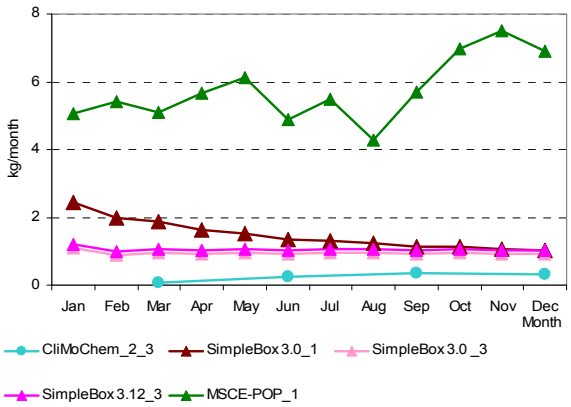


Fig. C.105a. *PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions (all models)*

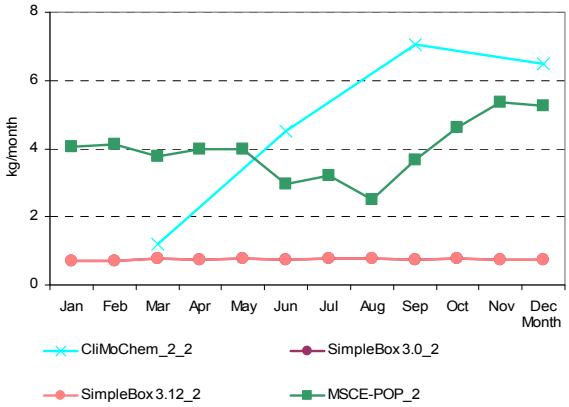


Fig. C.105b. *PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table C.79 *Calculation results: PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	1.28	4.84		0.93	1.00	*2.01*	*1.89*	Jan		0.74	0.74	4.06	*1.84*	*1.92*
Feb	1.06	5.10		0.75	0.82	*1.93*	*2.12*	Feb		0.72	0.72	4.12	*1.86*	*1.96*
Mar	1.06	4.77		0.80	0.87	*1.88*	*1.93*	Mar		0.77	0.77	3.77	*1.77*	*1.73*
Seas_1	**3.40**	**14.71**	**0.26**	**2.48**	**2.69**	***4.71***	***5.71***	**Seas_1**	**4.91**	**2.23**	**2.23**	**11.95**	***5.33***	***4.59***
Apr	0.97	5.29		0.77	0.84	*1.97*	*2.21*	Apr		0.75	0.75	4.05	*1.85*	*1.91*
May	0.96	5.73		0.80	0.87	*2.09*	*2.43*	May		0.77	0.77	4.16	*1.90*	*1.95*
Jun	0.90	4.75		0.77	0.84	*1.82*	*1.96*	Jun		0.75	0.75	3.24	*1.58*	*1.44*
Seas_2	**2.83**	**15.77**	**1.40**	**2.35**	**2.56**	***4.98***	***6.06***	**Seas_2**	**27.14**	**2.27**	**2.27**	**11.45**	***10.78***	***11.73***
Jul	0.90	5.24		0.80	0.87	*1.95*	*2.19*	Jul		0.77	0.78	3.45	*1.67*	*1.54*
Aug	0.88	4.25		0.80	0.87	*1.70*	*1.70*	Aug		0.78	0.78	2.83	*1.46*	*1.19*
Sep	0.84	5.49		0.77	0.84	*1.99*	*2.34*	Sep		0.75	0.75	3.94	*1.81*	*1.84*
Seas_3	**2.63**	**14.98**	**2.52**	**2.37**	**2.58**	***5.02***	***5.57***	**Seas_3**	**49.24**	**2.30**	**2.30**	**10.22**	***16.01***	***22.46***
Oct	0.86	6.48		0.80	0.87	*2.25*	*2.82*	Oct		0.78	0.78	4.73	*2.09*	*2.28*
Nov	0.82	6.88		0.77	0.84	*2.33*	*3.04*	Nov		0.75	0.75	5.30	*2.27*	*2.63*
Dec	0.81	6.39		0.77	0.84	*2.20*	*2.79*	Dec		0.75	0.75	5.18	*2.23*	*2.56*
Seas_4	**2.48**	**19.75**	**1.61**	**2.34**	**2.55**	***5.75***	***7.84***	**Seas_4**	**31.45**	**2.28**	**2.28**	**15.21**	***12.80***	***13.85***
Annual	**11.35**	**65.21**	**5.77**	**9.53**	**10.38**	***20.45***	***25.11***	**Annual**	**112.74**	**9.08**	**9.08**	**48.83**	***44.93***	***48.93***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.80. *Calculation results: PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	2.45	5.07		1.09	1.19	*2.45*	*1.85*	Jan		0.72	0.72	4.05	*1.83*	*1.92*
Feb	2.00	5.41		0.90	1.00	*2.33*	*2.11*	Feb		0.71	0.71	4.12	*1.85*	*1.97*
Mar	1.88	5.11		0.96	1.07	*2.25*	*1.95*	Mar		0.76	0.76	3.77	*1.76*	*1.74*
Seas_1	**6.32**	**15.59**	**0.20**	**2.95**	**3.27**	***5.67***	***5.96***	**Seas_1**	**3.60**	**2.18**	**2.18**	**11.94**	***4.97***	***4.69***
Apr	1.62	5.67		0.93	1.03	*2.31*	*2.26*	Apr		0.73	0.73	4.00	*1.82*	*1.89*
May	1.52	6.13		0.96	1.07	*2.42*	*2.49*	May		0.76	0.76	4.00	*1.84*	*1.87*
Jun	1.36	4.88		0.93	1.03	*2.05*	*1.90*	Jun		0.74	0.74	2.95	*1.47*	*1.28*
Seas_2	**4.51**	**16.68**	**0.71**	**2.81**	**3.13**	***5.57***	***6.36***	**Seas_2**	**13.56**	**2.23**	**2.23**	**10.95**	***7.24***	***5.89***
Jul	1.31	5.50		0.96	1.07	*2.21*	*2.20*	Jul		0.76	0.76	3.22	*1.58*	*1.42*
Aug	1.24	4.29		0.95	1.06	*1.89*	*1.61*	Aug		0.76	0.76	2.51	*1.34*	*1.01*
Sep	1.14	5.69		0.92	1.03	*2.20*	*2.33*	Sep		0.74	0.74	3.68	*1.72*	*1.70*
Seas_3	**3.69**	**15.48**	**1.11**	**2.83**	**3.16**	***5.26***	***5.80***	**Seas_3**	**21.10**	**2.26**	**2.26**	**9.41**	***8.76***	***8.89***
Oct	1.13	6.96		0.95	1.06	*2.53*	*2.96*	Oct		0.76	0.76	4.63	*2.05*	*2.23*
Nov	1.05	7.50		0.92	1.03	*2.63*	*3.25*	Nov		0.74	0.74	5.36	*2.28*	*2.67*
Dec	1.02	6.90		0.92	1.03	*2.47*	*2.96*	Dec		0.74	0.74	5.26	*2.24*	*2.61*
Seas_4	**3.20**	**21.36**	**1.00**	**2.80**	**3.12**	***6.30***	***8.47***	**Seas_4**	**19.46**	**2.24**	**2.24**	**15.25**	***9.80***	***8.90***
Annual	**17.72**	**69.11**	**3.02**	**11.39**	**12.68**	***22.78***	***26.43***	**Annual**	**57.72**	**8.90**	**8.90**	**47.55**	***30.77***	***25.59***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

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 C.81.

Table C.81. *The percentage difference between calculation results on PCB-180 mass flows transported from the atmosphere to vegetation: dry deposition obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMo Chem_2_2	CliMo Chem_2_3	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			91.5%	-2.6%	-2.6%	17.8%	20.0%	4.8%	-0.2%
Feb			87.8%	-2.2%	-2.2%	20.2%	22.6%	6.1%	0.0%
Mar			76.8%	-2.1%	-2.1%	20.0%	22.5%	7.1%	0.0%
Seas_1	-26.8%	-23.5%	85.8%	-2.3%	-2.3%	19.3%	21.6%	6.0%	-0.1%
Apr			66.9%	-2.0%	-2.0%	19.9%	22.5%	7.2%	-1.2%
May			58.5%	-2.0%	-2.0%	19.8%	22.4%	7.0%	-3.8%
Jun			51.3%	-1.9%	-1.9%	19.7%	22.4%	2.7%	-9.0%
Seas_2	-50.0%	-49.0%	59.1%	-2.0%	-2.0%	19.8%	22.4%	5.8%	-4.4%
Jul			45.3%	-1.9%	-1.9%	19.6%	22.4%	5.0%	-6.7%
Aug			40.1%	-1.9%	-1.9%	19.6%	22.3%	0.9%	-11.3%
Sep			35.7%	-1.8%	-1.8%	19.5%	22.3%	3.6%	-6.6%
Seas_3	-57.2%	-55.8%	40.5%	-1.9%	-1.9%	19.6%	22.3%	3.3%	-7.9%
Oct			31.9%	-1.8%	-1.8%	19.4%	22.3%	7.4%	-2.1%
Nov			28.7%	-1.8%	-1.8%	19.4%	22.3%	9.0%	1.1%
Dec			25.9%	-1.7%	-1.7%	19.3%	22.3%	8.0%	1.5%
Seas_4	-38.1%	-37.6%	28.9%	-1.8%	-1.8%	19.4%	22.3%	8.2%	0.3%
Annual	-48.8%	-47.7%	56.2%	-2.0%	-2.0%	19.5%	22.2%	6.0%	-2.6%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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;

Wet deposition

Reference data set. Calculation results on PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.82.

Monthly values of PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition 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. C.106 a and b, respectively.

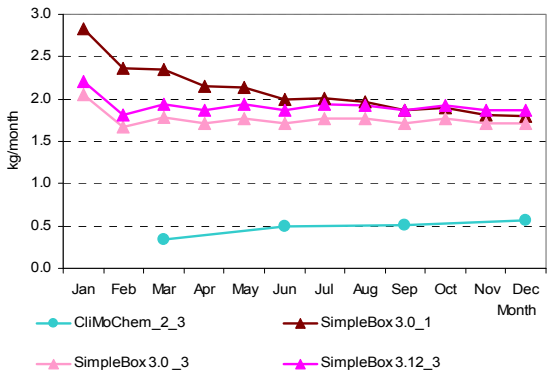


Fig. C.106a. *PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (all models)*

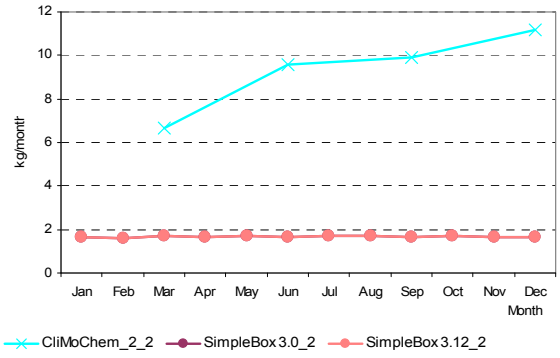


Fig. C.106b. *PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

Own/alternative data set. Calculation results on PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.83.

Monthly values of PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition 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. C.107 a and b, respectively.

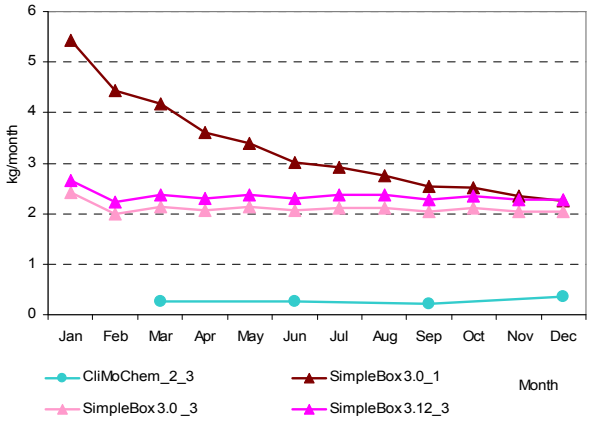


Fig. C.107a. *PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions*

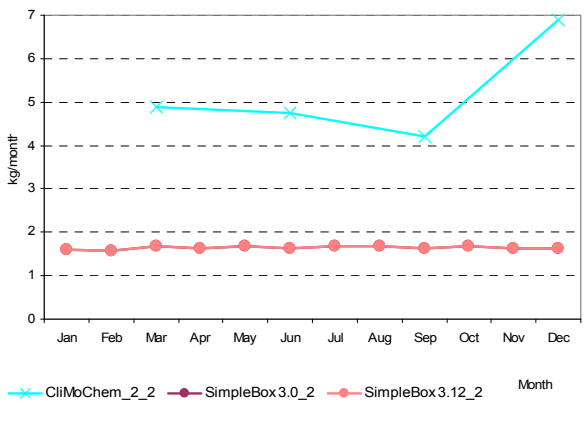


Fig. C.107b. *PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

Table C.82. *Calculation results: PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition (kg/month) 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]	CliMo Chem_2_3	SimpleBox 3.0 _3	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]		
Jan	2.83		2.06	2.21	*2.37*	*0.41*	Jan		1.63	1.63	*1.63*	*0.00*
Feb	2.36		1.66	1.82	*1.95*	*0.37*	Feb		1.61	1.61	*1.61*	*0.00*
Mar	2.36		1.78	1.94	*2.02*	*0.30*	Mar		1.72	1.72	*1.72*	*0.00*
Seas_1	**7.55**	**1.04**	**5.50**	**5.97**	***5.01***	***2.79***	**Seas_1**	**19.97**	**4.96**	**4.96**	***9.96***	***8.67***
Apr	2.16		1.72	1.87	*1.92*	*0.22*	Apr		1.66	1.66	*1.66*	*0.00*
May	2.13		1.77	1.94	*1.95*	*0.18*	May		1.72	1.72	*1.72*	*0.00*
Jun	2.00		1.72	1.87	*1.86*	*0.14*	Jun		1.66	1.66	*1.66*	*0.00*
Seas_2	**6.29**	**1.48**	**5.21**	**5.68**	***4.66***	***2.17***	**Seas_2**	**28.74**	**5.05**	**5.05**	***12.94***	***13.68***
Jul	2.01		1.77	1.93	*1.90*	*0.12*	Jul		1.72	1.72	*1.72*	*0.00*
Aug	1.96		1.77	1.93	*1.89*	*0.10*	Aug		1.72	1.72	*1.72*	*0.00*
Sep	1.87		1.71	1.87	*1.82*	*0.09*	Sep		1.66	1.66	*1.66*	*0.00*
Seas_3	**5.83**	**1.52**	**5.26**	**5.73**	***4.59***	***2.06***	**Seas_3**	**29.67**	**5.11**	**5.11**	***13.29***	***14.18***
Oct	1.90		1.77	1.93	*1.87*	*0.08*	Oct		1.72	1.72	*1.72*	*0.00*
Nov	1.82		1.71	1.87	*1.80*	*0.08*	Nov		1.67	1.67	*1.67*	*0.00*
Dec	1.80		1.71	1.86	*1.79*	*0.08*	Dec		1.67	1.67	*1.67*	*0.00*
Seas_4	**5.51**	**1.71**	**5.20**	**5.66**	***4.52***	***1.88***	**Seas_4**	**33.46**	**5.05**	**5.05**	***14.52***	***16.40***
Annual	**25.19**	**5.74**	**21.16**	**23.03**	***18.78***	***8.85***	**Annual**	**111.84**	**20.16**	**20.16**	***50.72***	***52.93***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.
* - In MSCE-POP model wet deposition on vegetation is not taken into account since it is considered as a part of deposition directly to soil.

Table C.83. *Calculation results: PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition (kg/month) calculated by models on the basis of "own or alternative" data sets and statistical parameters used for evaluation*

Month	Results obtained on the basis o 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]	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]		
Jan	5.43		2.42	2.65	*3.50*	*1.67*	Jan		1.59	1.59	*1.59*	*0.00*
Feb	4.44		2.00	2.23	*2.89*	*1.35*	Feb		1.57	1.57	*1.57*	*0.00*
Mar	4.16		2.13	2.38	*2.89*	*1.11*	Mar		1.68	1.68	*1.68*	*0.00*
Seas_1	**14.03**	**0.80**	**6.55**	**7.25**	***7.16***	***5.42***	**Seas_1**	**14.69**	**4.84**	**4.84**	***8.12***	***5.68***
Apr	3.60		2.06	2.30	*2.65*	*0.83*	Apr		1.63	1.63	*1.63*	*0.00*
May	3.38		2.13	2.37	*2.63*	*0.67*	May		1.69	1.69	*1.69*	*0.00*
Jun	3.02		2.05	2.29	*2.45*	*0.50*	Jun		1.63	1.63	*1.63*	*0.00*
Seas_2	**10.00**	**0.75**	**6.24**	**6.95**	***5.99***	***3.85***	**Seas_2**	**14.27**	**4.95**	**4.95**	***8.05***	***5.38***
Jul	2.91		2.12	2.36	*2.47*	*0.41*	Jul		1.69	1.69	*1.69*	*0.00*
Aug	2.75		2.12	2.36	*2.41*	*0.32*	Aug		1.69	1.69	*1.69*	*0.00*
Sep	2.53		2.05	2.28	*2.29*	*0.24*	Sep		1.63	1.63	*1.63*	*0.00*
Seas_3	**8.19**	**0.66**	**6.29**	**7.01**	***5.54***	***3.34***	**Seas_3**	**12.60**	**5.01**	**5.01**	***7.54***	***4.38***
Oct	2.51		2.12	2.36	*2.33*	*0.20*	Oct		1.69	1.69	*1.69*	*0.00*
Nov	2.34		2.05	2.28	*2.22*	*0.15*	Nov		1.64	1.64	*1.64*	*0.00*
Dec	2.26		2.04	2.28	*2.20*	*0.13*	Dec		1.64	1.64	*1.64*	*0.00*
Seas_4	**7.11**	**1.06**	**6.21**	**6.92**	***5.32***	***2.87***	**Seas_4**	**20.68**	**4.96**	**4.96**	***10.20***	***9.07***
Annual	**39.33**	**3.27**	**25.29**	**28.14**	***24.01***	***15.09***	**Annual**	**62.23**	**19.76**	**19.76**	***33.92***	***24.52***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.
* - In MSCE-POP model wet deposition on vegetation is not taken into account since it is considered as a part of deposition directly to soil.

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 C.84.

Table C.84. *The percentage difference between calculation results on PCB-180 mass flows transported from the atmosphere to vegetation: wet deposition obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMoChem_ 2_2	CliMoChem_ 2_3	Simple Box 3.0_1	SimpleBox 3.0_2	SimpleBox 3.12_2	SimpleBox 3.0 _3	SimpleBox 3.12_3
Jan			91.5%	-2.6%	-2.6%	17.8%	20.0%
Feb			87.8%	-2.2%	-2.2%	20.2%	22.6%
Mar			76.8%	-2.1%	-2.1%	20.0%	22.5%
Seas_1	-26.5%	-23.2%	85.8%	-2.3%	-2.3%	19.3%	21.6%
Apr			66.9%	-2.0%	-2.0%	19.9%	22.5%
May			58.5%	-2.0%	-2.0%	19.8%	22.4%
Jun			51.3%	-1.9%	-1.9%	19.7%	22.4%
Seas_2	-50.4%	-49.4%	59.1%	-2.0%	-2.0%	19.8%	22.4%
Jul			45.3%	-1.9%	-1.9%	19.6%	22.4%
Aug			40.1%	-1.9%	-1.9%	19.6%	22.3%
Sep			35.7%	-1.8%	-1.8%	19.5%	22.3%
Seas_3	-57.5%	-56.2%	40.5%	-1.9%	-1.9%	19.6%	22.3%
Oct			31.9%	-1.8%	-1.8%	19.4%	22.3%
Nov			28.7%	-1.8%	-1.8%	19.4%	22.3%
Dec			25.9%	-1.7%	-1.7%	19.3%	22.3%
Seas_4	-38.2%	-37.7%	28.9%	-1.8%	-1.8%	19.4%	22.3%
Annual	-44.4%	-43.0%	56.2%	-2.0%	-2.0%	19.5%	22.2%

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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.

Gaseous exchange

Reference data set. Calculation results on PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.85.

Monthly values of PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange 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. C.108a and b, respectively. Seasonal variations for models with positive values of gaseous exchange flows between the atmosphere and vegetation calculated by the participating models on the basis of "reference" data set and non-zero initial conditions are also shown in Fig. C.108c in more detail.

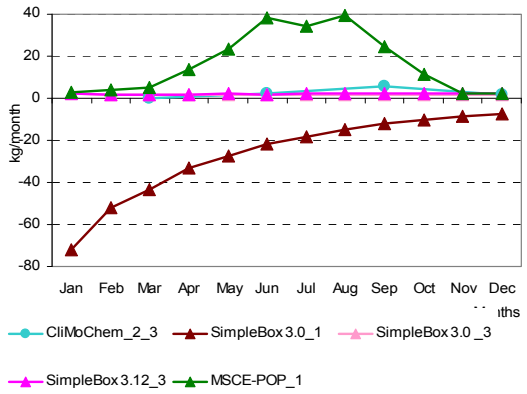


Fig. C.108a. *PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (all models)*

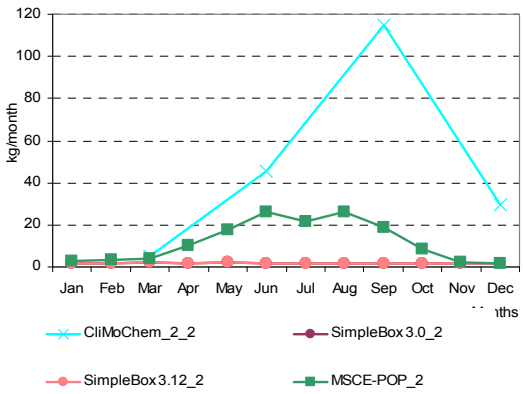


Fig. C.108b. *PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

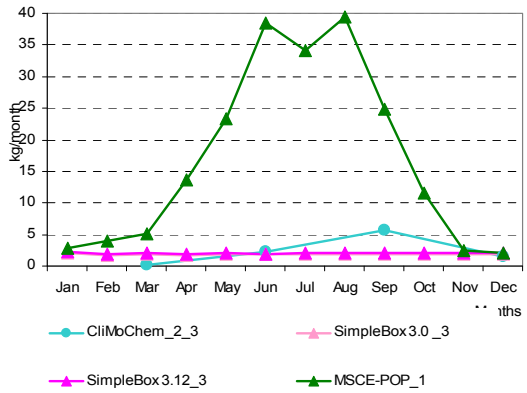


Fig. C.108c. *PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (models with positive values)*

Own/alternative data set. Calculation results on PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange calculated by models on the basis of "own or alternative" data sets together with statistical parameters used for evaluation are presented in Table C.86.

Monthly values of PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange 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. C.109a and b, respectively. Seasonal variations for models with positive values of gaseous exchange flows between the atmosphere and vegetation calculated by the participating models on the basis of "own or alternative" data set and non-zero initial conditions are also shown in Fig. C.109c in more detail.

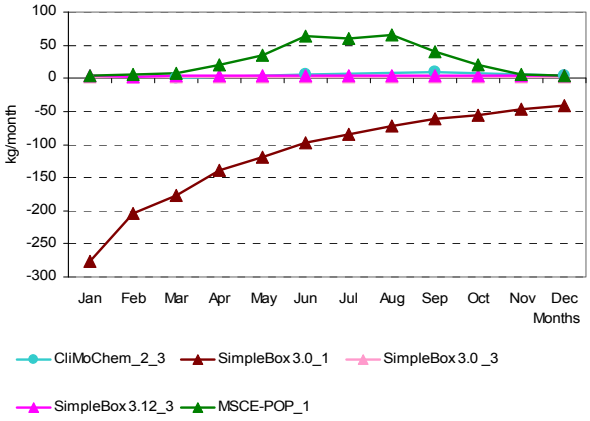


Fig. C.109a. *PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and non-zero initial conditions (all models)*

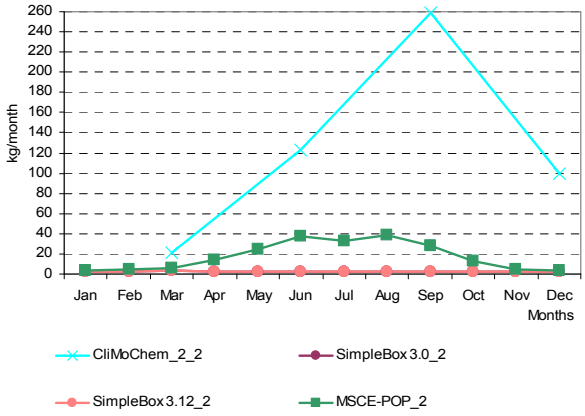


Fig. C.109b. *PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data sets and zero-initial conditions*

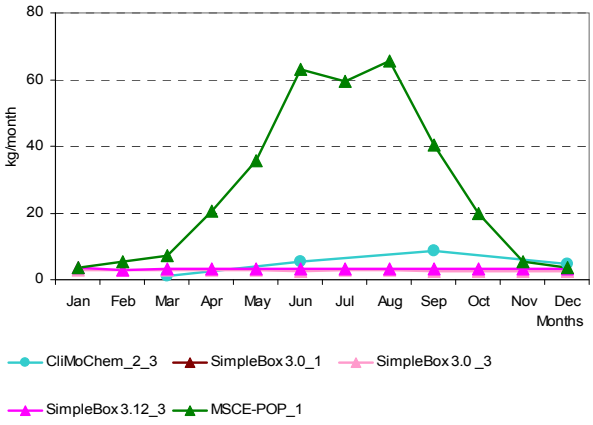


Fig. C.109c. *PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) calculated by the participating models on the basis of "own or alternative" data set and non-zero initial conditions (models with positive values)*

Comparison between results obtained on the basis of two data sets. A comparison of the 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 C.87.

Table C.85. *Calculation results: PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) 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	CliMoChem_2_3	SimpleBox 3.0 _3	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	-72.18	2.89		2.06	2.24	*-16.25*	*37.29*	Jan		1.95	1.95	2.58	*2.16*	*0.36*
Feb	-51.88	3.98		1.66	1.83	*-11.10*	*27.21*	Feb		1.90	1.90	3.38	*2.39*	*0.85*
Mar	-43.28	5.12		1.80	1.99	*-8.59*	*23.18*	Mar		2.02	2.02	4.22	*2.75*	*1.27*
Seas_1	**-167.34**	**11.99**	**0.85**	**5.52**	**6.07**	***-28.58***	***77.67***	**Seas_1**	**15.78**	**5.87**	**5.87**	**10.18**	***9.42***	***4.70***
Apr	-33.03	13.60		1.77	1.95	*-3.93*	*20.18*	Apr		1.94	1.94	10.40	*4.76*	*4.88*
May	-27.32	23.30		1.85	2.03	*-0.03*	*20.79*	May		2.00	2.00	17.60	*7.20*	*9.01*
Jun	-21.43	38.40		1.81	1.98	*5.19*	*24.72*	Jun		1.92	1.92	26.00	*9.95*	*13.90*
Seas_2	**-81.79**	**75.30**	**7.05**	**5.43**	**5.97**	***2.39***	***55.78***	**Seas_2**	**136.41**	**5.86**	**5.86**	**54.00**	***50.53***	***61.58***
Jul	-18.16	34.20		1.88	2.06	*5.00*	*21.66*	Jul		1.98	1.98	21.40	*8.45*	*11.21*
Aug	-14.97	39.50		1.90	2.07	*7.12*	*23.02*	Aug		1.97	1.97	26.40	*10.12*	*14.10*
Sep	-12.07	24.80		1.85	2.02	*4.15*	*15.27*	Sep		1.91	1.91	18.90	*7.57*	*9.81*
Seas_3	**-45.19**	**98.50**	**16.91**	**5.63**	**6.15**	***16.40***	***51.85***	**Seas_3**	**344.44**	**5.86**	**5.86**	**66.70**	***105.72***	***161.71***
Oct	-10.44	11.50		1.92	2.09	*1.27*	*9.00*	Oct		1.96	1.96	8.43	*4.12*	*3.73*
Nov	-8.48	2.52		1.86	2.03	*-0.52*	*5.32*	Nov		1.90	1.90	2.22	*2.01*	*0.19*
Dec	-7.14	2.03		1.87	2.04	*-0.30*	*4.56*	Dec		1.89	1.89	1.87	*1.89*	*0.01*
Seas_4	**-26.06**	**16.05**	**4.64**	**5.65**	**6.16**	***1.29***	***15.97***	**Seas_4**	**88.91**	**5.76**	**5.76**	**12.52**	***28.24***	***40.57***
Annual	**-320.38**	**201.84**	**29.45**	**22.22**	**24.34**	***-8.51***	***190.38***	**Annual**	**585.53**	**23.35**	**23.35**	**143.40**	***193.91***	***267.15***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.86. *Calculation results: PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) 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_1a	MSCE-POP_1	CliMo Chem_2_3	SimpleBox 3.0_3[a]	SimpleBox 3.12_3[a]				CliMo Chem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	-275.75	3.60		3.24	3.66	*-66.31*	*139.63*	Jan		2.92	2.92	3.08	*2.98*	*0.09*
Feb	-204.43	5.31		2.61	3.01	*-48.38*	*104.05*	Feb		2.81	2.81	4.30	*3.31*	*0.86*
Mar	-176.15	7.10		2.83	3.25	*-40.74*	*90.29*	Mar		2.94	2.94	5.53	*3.80*	*1.50*
Seas_1	**-656.33**	**16.01**	**3.46**	**8.68**	**9.93**	***-123.65***	***297.81***	**Seas_1**	**64.42**	**8.67**	**8.67**	**12.91**	***23.67***	***27.24***
Apr	-138.99	20.40		2.77	3.17	*-28.16*	*74.34*	Apr		2.79	2.79	14.20	*6.59*	*6.59*
May	-118.89	35.70		2.89	3.30	*-19.25*	*68.18*	May		2.83	2.83	24.30	*9.99*	*12.40*
Jun	-96.52	63.10		2.81	3.20	*-6.85*	*66.15*	Jun		2.70	2.70	37.70	*14.37*	*20.21*
Seas_2	**-354.40**	**119.20**	**16.60**	**8.47**	**9.67**	***-40.09***	***181.80***	**Seas_2**	**367.72**	**8.32**	**8.32**	**76.20**	***115.14***	***171.40***
Jul	-84.72	59.30		2.92	3.32	*-4.79*	*59.50*	Jul		2.75	2.75	32.70	*12.73*	*17.29*
Aug	-72.53	65.50		2.94	3.33	*-0.19*	*56.48*	Aug		2.72	2.72	38.80	*14.75*	*20.83*
Sep	-60.78	40.30		2.85	3.22	*-3.60*	*41.97*	Sep		2.60	2.60	28.00	*11.07*	*14.66*
Seas_3	**-218.03**	**165.10**	**26.08**	**8.71**	**9.87**	***-1.65***	***137.51***	**Seas_3**	**776.06**	**8.08**	**8.08**	**99.50**	***222.93***	***371.26***
Oct	-54.80	20.00		2.95	3.34	*-7.13*	*32.76*	Oct		2.67	2.67	13.40	*6.24*	*6.20*
Nov	-46.54	5.32		2.86	3.23	*-8.78*	*25.20*	Nov		2.56	2.56	4.24	*3.12*	*0.97*
Dec	-41.12	3.64		2.87	3.23	*-7.84*	*22.18*	Dec		2.54	2.54	3.12	*2.73*	*0.34*
Seas_4	**-142.45**	**28.96**	**14.37**	**8.69**	**9.80**	***-16.13***	***71.08***	**Seas_4**	**298.99**	**7.76**	**7.76**	**20.76**	***83.82***	***143.58***
Annual	**-1371.21**	**329.27**	**60.52**	**34.55**	**39.27**	***-181.52***	***676.44***	**Annual**	**1507.19**	**32.83**	**32.83**	**209.37**	***445.55***	***712.63***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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 - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.

Table C.87. *Comparison of the calculation results on PCB-180 mass flows between the atmosphere and vegetation: gaseous exchange (kg/month) obtained by models on the basis of two data sets: "reference" and "own or alternative" data sets*

Month	CliMoChem_2_3		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		CliMoChem_2_2	
	ref	own	ref	alt	ref	alt	ref	alt	ref	alt	ref	alt	ref	own	ref	own	ref	own
Jan			-72.18	-275.75	1.95	2.92	1.95	2.92	2.06	3.24	2.24	3.66	2.89	3.60	2.58	3.08		
Feb			-51.88	-204.43	1.90	2.81	1.90	2.81	1.66	2.61	1.83	3.01	3.98	5.31	3.38	4.30		
Mar			-43.28	-176.15	2.02	2.94	2.02	2.94	1.80	2.83	1.99	3.25	5.12	7.10	4.22	5.53		
Seas_1	**0.85**	**3.46**	**-167.34**	**-656.33**	**5.87**	**8.67**	**5.87**	**8.67**	**5.52**	**8.68**	**6.07**	**9.93**	**11.99**	**16.01**	**10.18**	**12.91**	**15.78**	**64.42**
Apr			-33.03	-138.99	1.94	2.79	1.94	2.79	1.77	2.77	1.95	3.17	13.60	20.40	10.40	14.20		
May			-27.32	-118.89	2.00	2.83	2.00	2.83	1.85	2.89	2.03	3.30	23.30	35.70	17.60	24.30		
Jun			-21.43	-96.52	1.92	2.70	1.92	2.70	1.81	2.81	1.98	3.20	38.40	63.10	26.00	37.70		
Seas_2	**7.05**	**16.60**	**-81.79**	**-354.40**	**5.86**	**8.32**	**5.86**	**8.32**	**5.43**	**8.47**	**5.97**	**9.67**	**75.30**	**119.20**	**54.00**	**76.20**	**136.41**	**367.72**
Jul			-18.16	-84.72	1.98	2.75	1.98	2.75	1.88	2.92	2.06	3.32	34.20	59.30	21.40	32.70		
Aug			-14.97	-72.53	1.97	2.72	1.97	2.72	1.90	2.94	2.07	3.33	39.50	65.50	26.40	38.80		
Sep			-12.07	-60.78	1.91	2.60	1.91	2.60	1.85	2.85	2.02	3.22	24.80	40.30	18.90	28.00		
Seas_3	**16.91**	**26.08**	**-45.19**	**-218.03**	**5.86**	**8.08**	**5.86**	**8.08**	**5.63**	**8.71**	**6.15**	**9.87**	**98.50**	**165.10**	**66.70**	**99.50**	**344.44**	**776.06**
Oct			-10.44	-54.80	1.96	2.67	1.96	2.67	1.92	2.95	2.09	3.34	11.50	20.00	8.43	13.40		
Nov			-8.48	-46.54	1.90	2.56	1.90	2.56	1.86	2.86	2.03	3.23	2.52	5.32	2.22	4.24		
Dec			-7.14	-41.12	1.89	2.54	1.89	2.54	1.87	2.87	2.04	3.23	2.03	3.64	1.87	3.12		
Seas_4	**4.64**	**14.37**	**-26.06**	**-142.45**	**5.76**	**7.76**	**5.76**	**7.76**	**5.65**	**8.69**	**6.16**	**9.80**	**16.05**	**28.96**	**12.52**	**20.76**	**88.91**	**298.99**
Annual	**29.45**	**60.52**	**-320.38**	**-1371.21**	**23.35**	**32.83**	**23.35**	**32.83**	**22.22**	**34.55**	**24.34**	**39.27**	**201.84**	**329.27**	**143.40**	**209.37**	**585.53**	**1507.19**

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
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;

Net mass flows between the atmosphere and vegetation

Net mass flows are equal to the total mass flows resulted from summing up of dry and wet depositions and gaseous exchange.

Reference data set. Calculation results on PCB-180 net mass flows between the atmosphere and vegetation calculated by the models on the basis of "reference" data set together with statistical parameters used for evaluation are presented in Table C.89.

Monthly values of PCB-180 net mass flows between the atmosphere and 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. C.110a and b, respectively. Seasonal variations for models with low positive values of net mass flows between the atmosphere and vegetation calculated by the participating models on the basis of "reference" data set and non-zero initial conditions are also shown in Fig. C.110c in more detail.

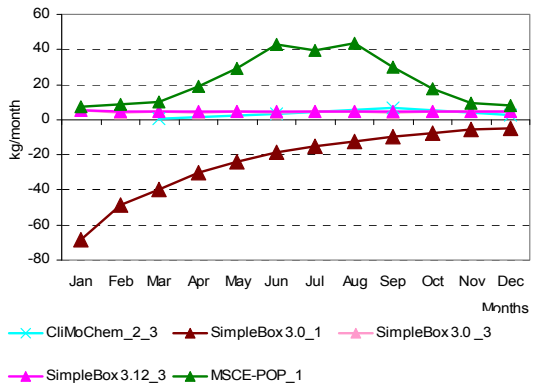


Fig. C.110a. *PCB-180 net mass flows between the atmosphere and vegetation (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (all models)*

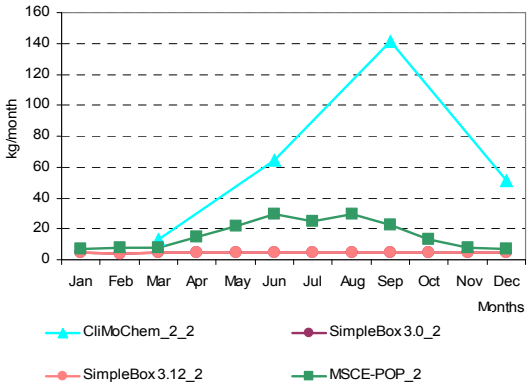


Fig. C.110b. *PCB-180 net mass flows between the atmosphere and vegetation (kg/month) calculated by the participating models on the basis of "reference" data set and zero-initial conditions*

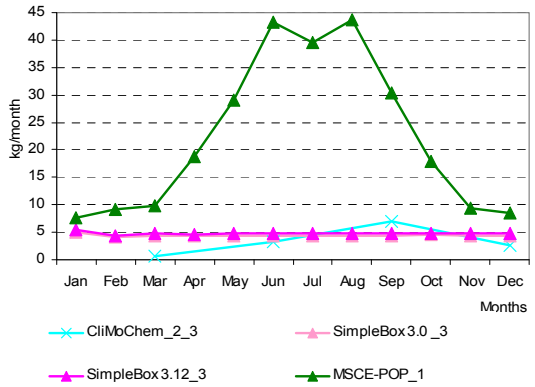


Fig. C.110c. *PCB-180 net mass flows between the atmosphere and vegetation (kg/month) calculated by the participating models on the basis of "reference" data set and non-zero initial conditions (models with low values)*

Table C.89. *Calculation results: PCB-180 net mass flows between the atmosphere and vegetation (kg/month) 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	CliMo Chem_2_3	SimpleBox 3.0 _3[a]	SimpleBox 3.12_3[a]				CliMoChem_2_2	SimpleBox 3.0_2[a]	SimpleBox 3.12_2[a]	MSCE-POP_2		
Jan	-68.07	7.73		5.04	5.45	*-12.46*	*37.09*	Jan		4.32	4.32	6.64	*5.09*	*1.34*
Feb	-48.46	9.08		4.07	4.47	*-7.71*	*27.26*	Feb		4.23	4.23	7.50	*5.32*	*1.89*
Mar	-39.86	9.89		4.38	4.80	*-5.20*	*23.25*	Mar		4.51	4.51	7.99	*5.67*	*2.01*
Seas_1	**-156.39**	**26.70**	**2.14**	**13.49**	**14.72**	***-19.87***	***76.81***	**Seas_1**	**40.66**	**13.06**	**13.06**	**22.13**	***22.23***	***13.01***
Apr	-29.90	18.89		4.26	4.67	*-0.52*	*20.74*	Apr		4.35	4.35	14.45	*7.72*	*5.83*
May	-24.23	29.03		4.42	4.84	*3.52*	*21.78*	May		4.49	4.49	21.76	*10.25*	*9.97*
Jun	-18.54	43.15		4.30	4.70	*8.40*	*25.59*	Jun		4.34	4.34	29.24	*12.64*	*14.38*
Seas_2	**-72.67**	**91.07**	**9.93**	**12.99**	**14.21**	***11.10***	***57.94***	**Seas_2**	**192.28**	**13.18**	**13.18**	**65.45**	***71.02***	***84.51***
Jul	-15.25	39.44		4.45	4.87	*8.38*	*22.73*	Jul		4.48	4.48	24.85	*11.27*	*11.76*
Aug	-12.12	43.75		4.47	4.87	*10.24*	*23.70*	Aug		4.47	4.47	29.23	*12.72*	*14.30*
Sep	-9.36	30.29		4.33	4.73	*7.50*	*16.55*	Sep		4.32	4.32	22.84	*10.49*	*10.69*
Seas_3	**-36.73**	**113.48**	**20.95**	**13.25**	**14.47**	***25.08***	***54.55***	**Seas_3**	**423.34**	**13.27**	**13.27**	**76.92**	***131.70***	***196.73***
Oct	-7.68	17.98		4.49	4.89	*4.92*	*10.48*	Oct		4.46	4.46	13.16	*7.36*	*5.02*
Nov	-5.84	9.40		4.35	4.74	*3.16*	*6.43*	Nov		4.31	4.31	7.52	*5.38*	*1.85*
Dec	-4.54	8.42		4.35	4.74	*3.24*	*5.50*	Dec		4.31	4.31	7.05	*5.22*	*1.58*
Seas_4	**-18.06**	**35.80**	**7.95**	**13.19**	**14.36**	***10.65***	***19.26***	**Seas_4**	**153.82**	**13.08**	**13.08**	**27.73**	***51.93***	***68.28***
Annual	**-283.85**	**267.05**	**40.96**	**52.92**	**57.76**	***26.97***	***197.52***	**Annual**	**810.11**	**52.59**	**52.59**	**192.23**	***276.88***	***361.53***

CliMoChem_2_2 – CliMoChem results calculated on the basis of Land Cover Data given as input data and with zero initial concentrations;
CliMoChem_2_3 - CliMoChem results calculated on the basis of Land Cover Data given as input data and with historical emissions for 20-year period;
MSCE-POP_1 - MSCE-POP results calculated on the basis of initial concentrations given as input data;;
a - SimpleBox data presented here are overall mass flows (to regional and continental cells) calculated as sum of regional and continental level estimates.