

7. Comparison of Model Results and Measurements for 1998

Tables with 1998 measured and modelled concentrations and depositions at the HELCOM stations. Tables (7.1 - 7.7) with comparison of annual 1998 depositions, annual average air concentrations and annual average concentrations in precipitation, computed from the models and measured at HELCOM stations (pages 2 - 7). Since for 1998 there were no lindane measurements available at HELCOM, model results for lindane were compared with the available observations at the EMEP stations.

Table 7.1. Comparison of the 1998 annual average air concentrations, precipitation amounts and annual wet depositions, measured at HELCOM stations and computed with the EMEP Eulerian Acid Deposition model.

Station		NO ₂ air		Precipitation		Oxidized N		Reduced N	
		(mg m ⁻³)		(mm)		mg m ⁻² yr ⁻¹		mg m ⁻² yr ⁻¹	
Name	Code	Obs.	Model	Obs.	Model	Obs.	Model	Obs.	Model
Zingst	DE09	2.27	2.52	659	785	376	310	363	366
Keldsnor	DK05	-	2.53	635	854	330	340	349	497
Anholt	DK08	1.96	2.15	714	911	364	229	250	272
Vilsandy	EE11	0.85	1.19	491	691	187	140	187	119
Lahemaa	EE09	0.63	1.27	838	652	193	128	134	142
Utö	FI09	1.60	2.08	270	650	143	134	89	84
Virolahti_II	FI17	1.35	1.78	643	799	199	148	225	124
Hailuoto	FI91	-	0.78	466	756	103	92	93	62
Preila	LT15	12.48	1.28	583	968	298	279	228	262
Rucava	LV10	0.65	1.25	857	837	257	207	266	166
Zoseni	LV16	0.59	0.76	928	994	390	226	325	217
Leba	PL04	1.70	1.98	792	841	372	268	356	266
Rörvik	SE02	1.66	2.72	793	907	365	205	301	187
Hoburg	SE08	1.02	1.56	-	695	-	164	-	121
Vavihill	SE11	1.87	5.21	807	969	420	294	460	299
Aspvreten	SE12	-	1.95	427	731	145	129	128	111
Average over stations:		2.20	1.94	660	815	276	206	250	206

Table 7.2. Comparison of calculated and measured annual average 1998 lead concentrations in air. Units: ng m⁻³.

Sub-basin	Site code	Site name	Observed	Calculated	Obs/Cal
BPN	LV10	Rucava	2.8	2.2	1.3
BPS	DE9	Zingst	8.7	4.8	1.8
BPS	LT15	Preila	8.4	2.5	3.3
GUR	LV16	Zoseni	2.4	1.6	1.5
KAT	DK8	Anholt	4.6	1.2	3.7
WEB	DK5	Keldsnor	8	2.6	3.1

Table 7.3. Comparison of calculated and measured annual average 1998 lead concentrations in precipitation. Units: $\mu\text{g l}^{-1}$.

Sub-basin	Site code	Site name	Observed	Calculated	Obs/Cal
BPN	LV10	Rucava	2.83	0.51	5.6
BPS	DE9	Zingst	1.46	0.77	1.9

Table 7.4. Comparison of calculated and measured annual average 1998 cadmium concentrations in air. Units: ng m^{-3} .

Sub-basin	Site code	Site name	Observed	Calculated	Obs/Cal
BPN	LV10	Rucava	0.22	0.06	3.5
BPS	DE9	Zingst	0.19	0.08	2.4
BPS	LT15	Preila	0.32	0.07	4.5
GUR	LV16	Zoseni	0.2	0.05	4.4

Table 7.5. Comparison of calculated and measured annual average 1998 cadmium concentrations in precipitation. Units: $\mu\text{g l}^{-1}$.

Sub-basin	Site code	Site name	Observed	Calculated	Obs/Cal
BPN	LV10	Rucava	0.150	0.020	7.4
BPS	DE9	Zingst	0.070	0.023	3.1

Table 7.6. Comparison of calculated and measured annual average 1998 mercury concentrations in precipitation. Units: ng l^{-1} .

Sub-basin	Site code	Site name	Observed	Calculated	Obs/Cal
BPS	DE9	Zingst	13.57	31.46	0.4
KAT	SE2	Rörvik	6.96	10.42	0.7
SOU	SE11	Vavihill	8.29	12.39	0.7
BPN	SE12	Aspvreten	8.25	10.19	0.8

Table 7.8. Comparison of calculated and measured at EMEP stations annual average 1998 lindane concentrations in air. Units: ng m^{-3} .

Site code	Site name	Observed	Calculated	Obs/Cal
CS03	Kosetice	0.155	0.522	0.30
IS91	Storhofdi	0.003	0.011	0.27
NO42	Spitzbergen	0.011	0.001	10.40
NO99	Lista	0.067	0.126	0.53

Table 7.9. Comparison of calculated and measured at EMEP stations annual average 1998 lindane concentrations in precipitation. Units: ng l^{-1} .

Site code	Site name	Observed	Calculated	Obs/Cal
DE01	Westerland	6.39	19.23	0.33
DE09	Zingst	7.52	14.28	0.53
IS91	Storhofdi	0.18	0.42	0.43
NO99	Lista	5.26	5.79	0.91