

4. Atmospheric Load of Pollutants to the Baltic Sea, Its Catchments and Sub-basins in 1998

Tables with annual 1998 depositions to the Baltic Sea, its sub-basins and catchments. Tables (4.1 - 4.10) with dry, wet and total deposition, as well as corresponding deposition fluxes to all sub-basins and catchments of the Baltic Sea (pages 2 -6).

Deposition maps for 1998. The maps of 1998 annual depositions of oxidized nitrogen, reduced nitrogen, lead, cadmium, total mercury and lindane, in the Baltic Sea region. Figures 4.1 - 4.6 on pages 7 - 12.

Table 4.1. Annual depositions (in 1000 tonnes N per year) and fluxes (in mg N m⁻² yr⁻¹) of nitrogen compounds to the Baltic Sea and its sub-basins in 1998.

Sub-basin	Deposition type					Flux type				
	Oxidized		Reduced		Total	Oxidized		Reduced		Total
	dry	wet	dry	wet		dry	wet	dry	wet	
GUB	8.1	11.5	3.3	7.7	30.5	69	99	28	66	262
BOB	1.5	3.3	0.9	2.4	8.1	41	87	23	63	214
BOS	5.1	6.7	1.9	4.2	18.0	75	99	29	62	265
ARC	1.4	1.5	0.4	1.0	4.4	129	138	40	94	401
GUF	3.7	3.8	2.0	3.2	12.7	123	126	68	106	423
GUR	2.2	2.8	1.6	2.8	9.4	122	151	86	149	508
BAP	35.6	39.9	24.7	33.7	133.9	169	190	118	160	637
BPN	15.6	16.9	7.5	12.5	52.5	137	148	66	109	460
BPS	20.0	23.0	17.2	21.2	81.4	206	238	177	219	841
BSK	10.7	11.8	17.6	14.0	54.2	246	270	404	321	1241
BES	5.9	6.3	11.5	8.2	32.0	289	309	561	399	1559
WEB	5.1	5.8	10.9	7.6	29.3	275	311	590	409	1584
SOU	0.8	0.6	0.6	0.6	2.7	415	297	298	311	1321
KAT	4.8	5.5	6.1	5.8	22.3	207	235	263	251	956
BAS	60.4	69.8	49.2	61.3	240.8	145	168	119	148	580

Table 4.2. Annual depositions (in 1000 tonnes N per year) and fluxes (in mg N m⁻² yr⁻¹) of nitrogen compounds to the catchments of the Baltic Sea in 1998.

Sub-basin	Deposition type					Flux type				
	Oxidized		Reduced		Total	Oxidized		Reduced		Total
	dry	wet	dry	wet		dry	wet	dry	wet	
GUB	39	53	15	32	138	65	88	24	52	229
BOB	13	22	6	12	53	42	74	20	41	178
BOS	22	28	8	17	75	78	97	27	59	261
ARC	4	3	1	2	10	185	141	58	107	491
GUF	49	57	27	47	181	110	127	61	106	404
GUR	22	28	28	37	115	140	181	178	235	734
BAP	225	200	240	241	905	296	261	316	316	1190
BSK	40	39	48	43	171	260	253	314	278	1106
BES	16	15	26	19	76	343	317	568	400	1628
WEB	13	13	24	17	67	325	321	608	415	1670
SOU	3	2	2	2	9	450	292	316	306	1364
KAT	24	24	22	24	95	224	225	202	224	875
BAS	376	378	358	399	1510	181	180	174	193	727

Table 4.3. Annual depositions (in tonnes per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of lead to the Baltic Sea and its sub-basins in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	1.05	17.59	18.63	9	150	159
BOB	0.40	6.1	6.5	10	160	171
BOS	0.52	9.7	10.2	8	142	150
ARC	0.13	1.8	2.0	12	166	178
GUF	1.11	11.5	12.7	37	385	422
GUR	0.42	5.7	6.2	23	311	333
BAP	3.18	76.66	79.85	15	363	378
BPN	1.06	28.7	29.8	9	251	260
BPS	2.12	48.0	50.1	22	495	516
BSK	0.86	15.92	16.79	20	363	383
BES	0.59	8.82	9.41	29	430	459
WEB	0.54	7.9	8.4	29	425	454
SOU	0.05	1.0	1.0	26	478	503
KAT	0.27	7.1	7.4	12	305	316
BAS	6.63	127.47	134.09	16	303	319

Table 4.4. Annual depositions (in tonnes per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of lead to the catchments of the Baltic Sea in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	18.0	107.4	125.4	30	176	206
BOB	9.2	51.5	60.8	31	171	202
BOS	8.1	51.5	59.5	28	179	207
ARC	0.7	4.4	5.1	33	206	239
GUF	39.7	214.2	253.9	88	475	563
GUR	11.6	81.8	93.3	74	521	595
BAP	11.1	847.1	958.2	144	1101	1245
BSK	5.8	57.6	63.4	37	371	408
BES	2.2	23.6	25.8	47	506	553
WEB	2.0	20.5	22.5	49	511	560
SOU	0.2	3.1	3.3	34	478	512
KAT	3.6	34.0	37.6	33	312	346
BAS	186.9	1318.2	1505.1	86	607	693

Table 4.5. Annual depositions (in tonnes per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of cadmium to the Baltic Sea and its sub-basins in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	47	632	679	0.40	5.4	5.8
BOB	24	321	345	0.64	8.5	9.1
BOS	18	259	277	0.26	3.8	4.1
ARC	4	52	57	0.40	4.7	5.1'
GUF	27	267	295	0.90	8.9	9.8
GUR	14	194	207	0.75	10.5	11.2
BAP	135	2786	2922	0.64	13.2	13.8
BPN	34	847	881	0.30	7.4	7.7
BPS	102	1940	2041	1.05	20.0	21.1
BSK	26	435	461	0.60	9.9	10.5
BES	16	203	219	0.76	9.9	10.7
WEB	9	200	208	0.47	10.8	11.3
SOU	2	32	34	0.90	15.9	16.8
KAT	17	235	252	0.75	10.1	10.8
BAS	249	4314	4563	0.59	10.3	10.8

Table 4.6. Annual depositions (in tonnes per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of cadmium to the catchments of the Baltic Sea in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	729	3342	4071	1.2	5.5	6.7
BOB	399	1745	2144	1.3	5.8	7.1
BOS	302	1463	1765	1.1	5.1	6.2
ARC	28	135	162	1.3	6.3	7.6
GUF	1122	5127	6249	2.5	11.4	13.9
GUR	465	2746	3211	3.0	17.5	20.5
BAP	6887	44918	51805	9.0	58.4	67.3
BSK	187	1536	1723	1.2	9.9	11.1
BES	65	621	686	1.4	13.3	14.7
WEB	57	520	577	1.4	12.9	14.4
SOU	8	100	108	1.2	15.5	16.7
KAT	122	915	1038	1.1	8.4	9.5
BAS	9415	57983	67398	4.3	26.7	31.0

Table 4.7. Annual depositions (in tonnes per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of mercury to the Baltic Sea and its sub-basins in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	348	689	1037	2.98	5.9	8.9
BOB	125	242	368	3.30	6.4	9.7
BOS	181	382	562	2.65	5.6	8.3
ARC	42	65	107	3.85	5.9	9.7
GUF	163	227	390	5.43	7.6	13.0
GUR	113	160	273	6.10	8.7	14.8
BAP	742	2137	2879	3.51	10.1	13.6
BPN	276	863	1139	2.42	7.6	10.0
BPS	466	1274	1740	4.80	13.1	17.9
BSK	321	569	890	7.32	13.0	20.3
BES	213	324	537	10.36	15.8	26.1
WEB	188	277	466	10.17	15.0	25.1
SOU	24	47	71	12.08	23.3	35.4
KAT	108	245	353	4.64	10.5	15.2
BAS	1687	3782	5469	4.01	9.0	13.0

Table 4.8. Annual depositions (in tonnes per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of mercury to the catchments of the Baltic Sea in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	4627	4394	9021	7.6	7.2	14.8
BOB	2286	2153	4439	7.6	7.1	14.7
BOS	2203	2103	4307	7.7	7.3	15.0
ARC	138	137	275	6.5	6.5	13.0
GUF	3917	3741	7658	8.7	8.3	17.0
GUR	1537	1666	3203	9.8	10.6	20.4
BAP	9947	18494	28441	12.9	24.0	37.0
BSK	1547	1940	3487	10.0	12.5	22.4
BES	552	814	1366	11.8	17.4	29.3
WEB	475	688	1163	11.8	17.1	28.9
SOU	77	126	204	11.9	19.5	31.4
KAT	995	1126	2120	9.1	10.3	19.5
BAS	21830	30589	54419	10.1	14.4	24.1

Table 4.9. Annual depositions (in kg per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of lindane to the Baltic Sea and its sub-basins in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	6	312	319	0.1	2.7	2.7
BOB	-151	91	-60	-4.0	2.4	-1.6
BOS	236	183	419	3.5	2.7	6.2
ARC	-79	39	-40	-7.2	3.5	-3.7
GUF	-207	101	-106	-6.9	-3.4	-3.5
GUR	197	82	279	10.6	4.5	15.1
BAP	750	1893	2643	3.5	9.0	12.5
BPN	419	657	1076	3.7	5.7	9.4
BPS	331	1237	1567	3.4	12.8	16.2
BSK	-472	609	138	-10.8	13.9	3.1
BES	-596	318	-278	-29.0	15.5	-13.6
WEB	-639	286	-354	-34.5	15.4	-19.1
SOU	43	32	76	21.6	16.0	37.6
KAT	124	292	416	5.3	12.5	17.8
BAS	273	2999	3272	0.7	7.1	7.8

Table 4.10. Annual depositions (in kg per year) and fluxes (in $\text{g km}^{-2} \text{yr}^{-1}$) of lindane to the catchments of the Baltic Sea in 1998.

Sub-basin	Deposition type			Flux type		
	dry	wet	total	dry	wet	total
GUB	-125	1976	1851	-0.2	3.2	3.0
BOB	-44	915	871	-0.1	3.0	2.9
BOS	-77	989	912	-0.3	3.4	3.2
ARC	-4	72	69	-0.2	3.4	3.2
GUF	-76	1681	1605	-0.5	10.7	10.2
GUR	-22	905	883	-0.03	1.2	1.1
BAP	-579	9633	9054	-1.3	21.4	20.1
BSK	-142	1887	1745	-0.9	12.1	11.2
BES	-46	742	696	-1.0	15.9	14.9
WEB	-32	639	607	-0.8	15.9	15.1
SOU	-13	103	90	-2.0	15.8	13.8
KAT	-97	1145	1049	-0.9	10.5	9.6
BAS	-990	16381	15391	-0.5	7.5	7.1

Figure 4.1. Map of annual 1998 deposition (in $\text{mg m}^{-2} \text{yr}^{-1}$) of oxidized nitrogen to the Baltic Sea region.

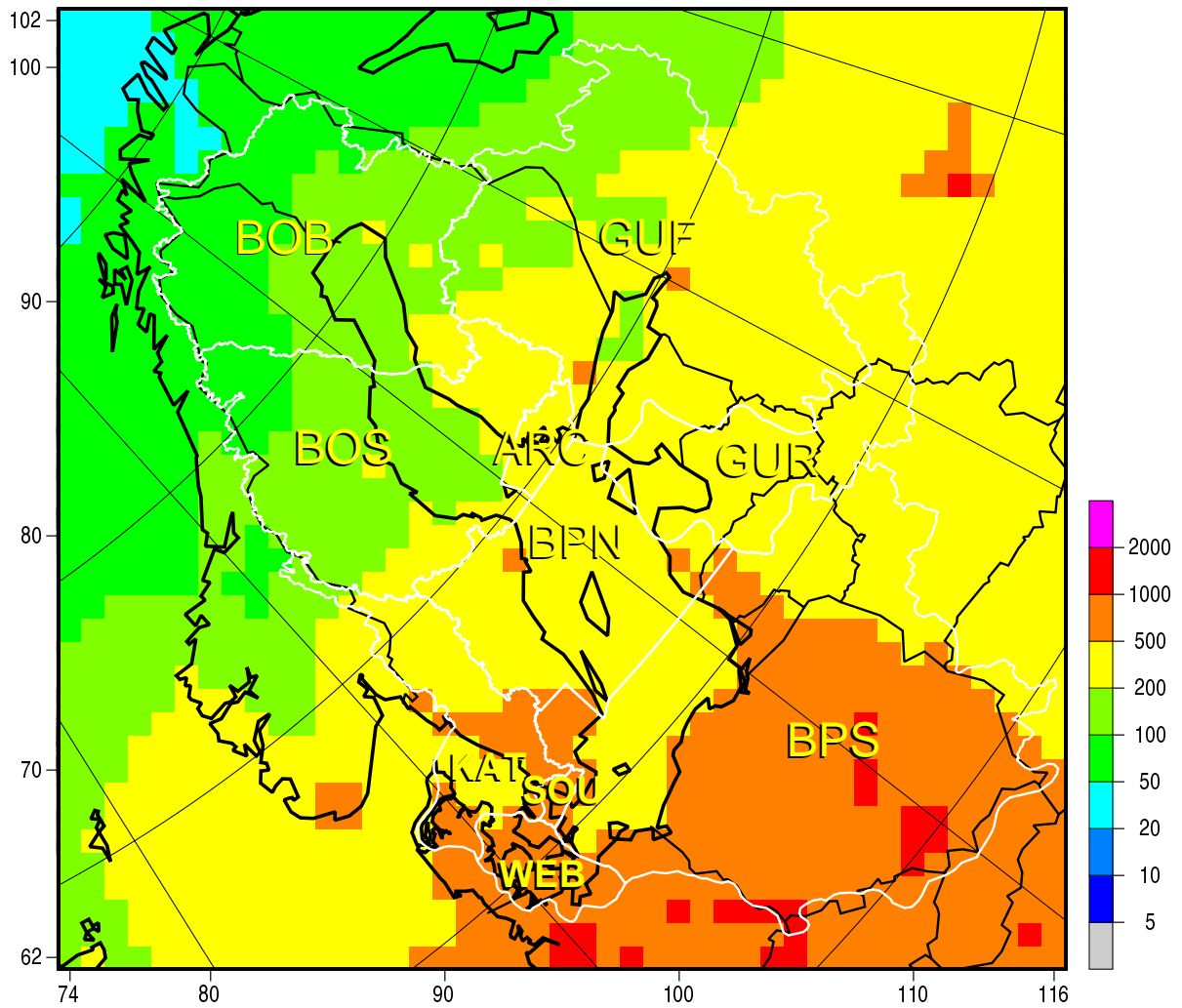


Figure 4.2. Map of annual 1998 deposition (in $\text{mg m}^{-2} \text{yr}^{-1}$) of reduced nitrogen to the Baltic Sea region.

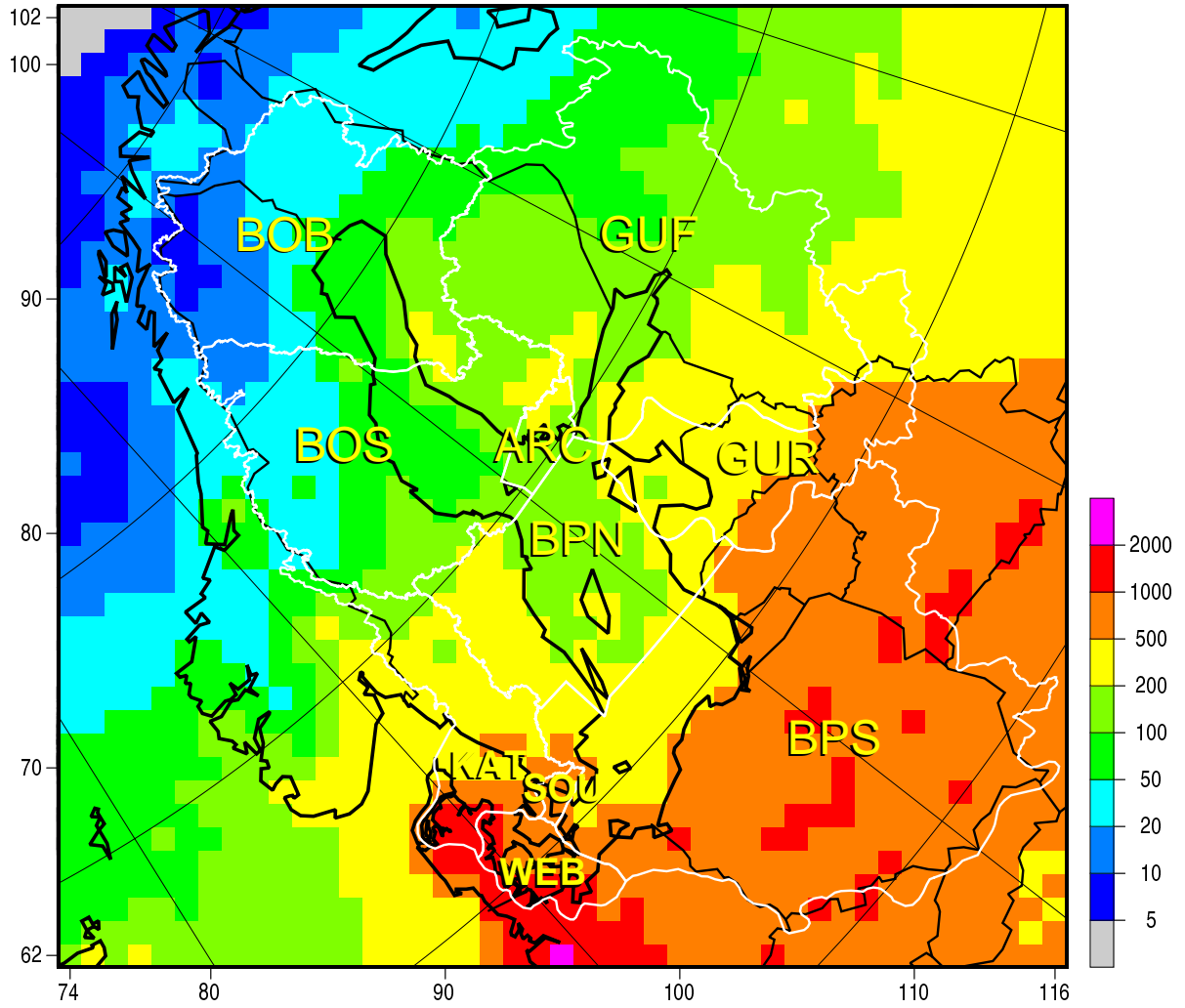


Figure 4.3. Map of annual 1998 deposition (in $\text{kg km}^{-2} \text{yr}^{-1}$) of lead to the Baltic Sea region.

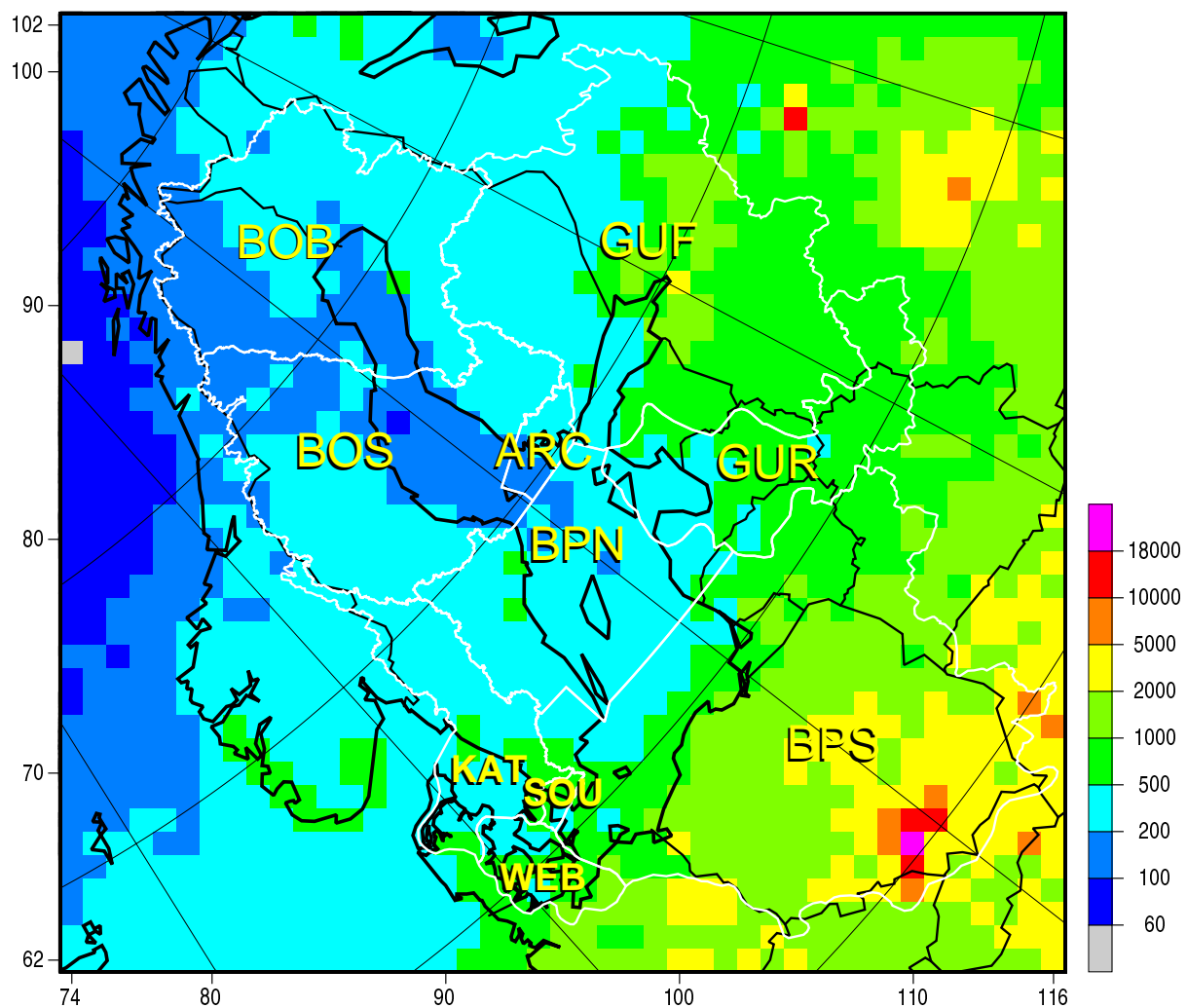


Figure 4.4. Map of annual 1998 deposition (in $\text{kg km}^{-2} \text{yr}^{-1}$) of cadmium to the Baltic Sea region.

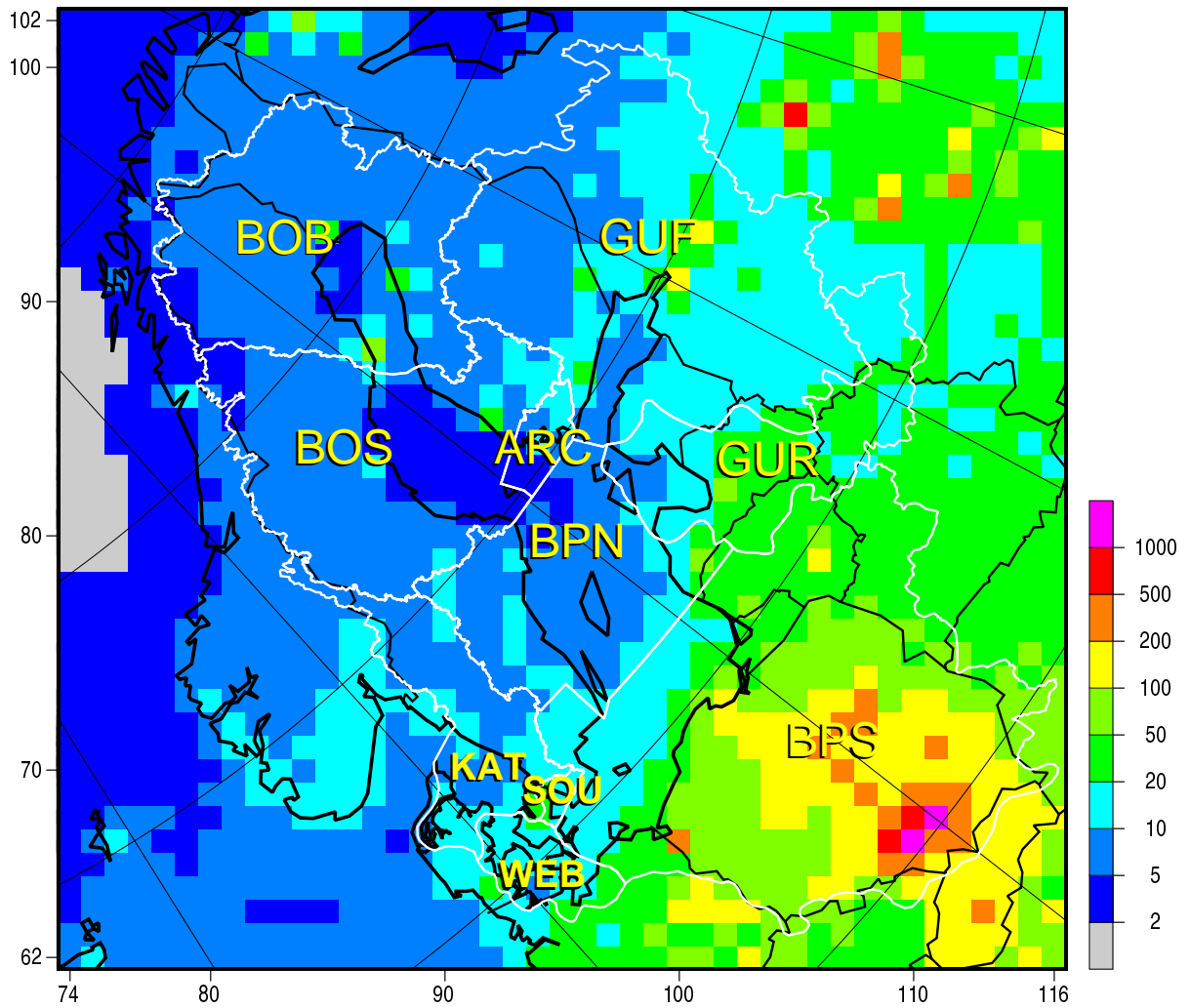


Figure 4.5. Map of annual 1998 deposition (in $\text{kg km}^{-2} \text{yr}^{-1}$) of mercury to the Baltic Sea region.

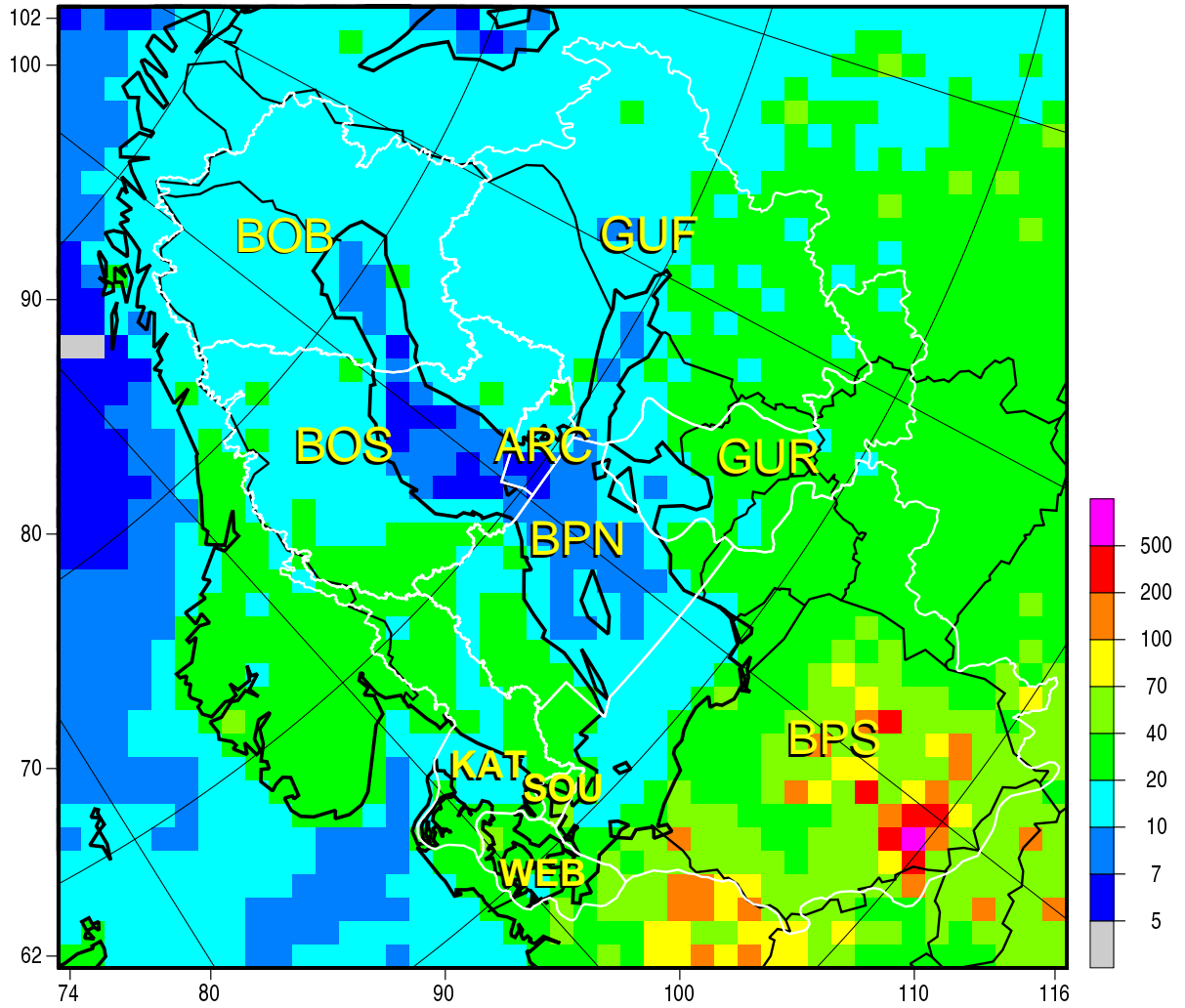


Figure 4.6. Map of annual 1998 deposition (in $\text{kg km}^{-2} \text{yr}^{-1}$) of lindane to the Baltic Sea region.

