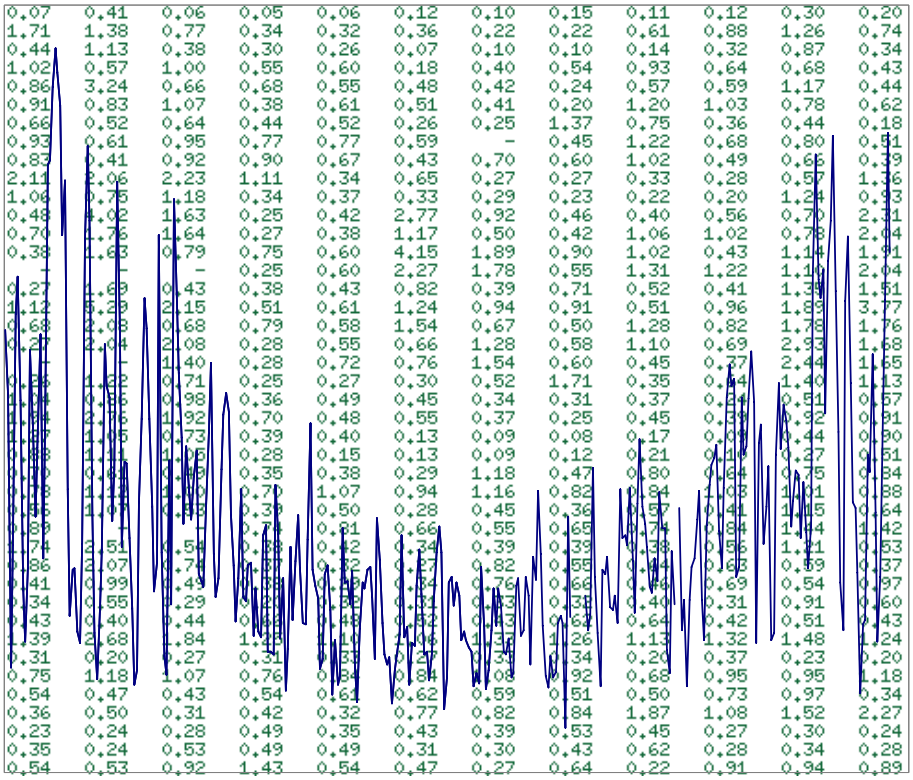
EMEP/CCC-Report 1/2006

EMEP Co-operative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe

Data Report 2004

Acidifying and eutrophying compounds

Ann Mari Fjæraa



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1. Introduction

Measurements of air quality in Europe have been carried out under the "Co-operative programme for monitoring and evaluation of the long-range transmission of air pollutants in Europe" (EMEP) since 1 October 1977. From the start, priority was given to sulphur dioxide and sulphate in air, and pH and sulphate in precipitation, gradually increasing to all main components in precipitation and ozone and nitrogen compounds in air. A few sites also measure VOC, POPs and heavy metals.

The EMEP data from 2004 for acidifying and eutrophying components in air and precipitation are presented in this report, which aims to give a short overview of the measurement data available. A complete set of data, including raw data, annual statistics and monthly means, can be downloaded from the web at http://www.nilu.no/projects/ccc/ under 'Measurement data'.

The air and precipitation samples were analysed at the laboratories in the participating countries and the results have been forwarded to the Chemical Co-ordinating Centre (CCC) at the Norwegian Institute for Air Research (NILU).

2. The measurement network

The locations of the measurement sites for acidifying and eutrophying components are given in Table 1 and Figure 1. In addition to the network presented here, there are additional sites with other types of measurements.

In total, precipitation data from 89 stations and air data from 93 stations are presented in this report. The total number of measurement sites in this report is 111.

In some parts of Europe, the site density is low and highly unsatisfactory. There is a need for more sites especially in the Mediterranean region and in the eastern parts of Europe.

For detailed information on sites and their surroundings please see descriptions at http://www.nilu.no/projects/ccc/sitedescriptions/.

Table 1: List of EMEP monitoring stations in operation in 2004.

Country	Station codes	Station name	Location		Height above sea (m)
			Lat.	Long.	
Austria	AT0002R	Illmitz	47º46'N	16º46'E	117
	AT0004R	St. Koloman	47º39'N	13º12'E	851
	AT0005R	Vorhegg	46º40'N	12º58'E	1020
	AT0048R	Zoebelboden	47º50'N	14º26'E	899
Belarus	BY0004R	Vysokoe	55º20'N	23º26'E	163
Belgium	BE0001R	Offagne	49º52'N	5º12'E	430
	BE0032R	Eupen	50º37'N	6º00'E	295
	BE0035R	Vezin	50º30'N	4º59'E	160
Croatia	HR0002R	Puntijarka	45º54'N	15º58'E	988
	HR0004R	Zavizan	44º49'N	14º59'E	1594
Cyprus	CY0002R	Ayia Marina	33º02'N	33º03'E	532
Czech Rep.	CZ0001R	Svratouch	49º44'N	16º02'E	737
	CZ0003R	Košetice	49º35'N	15º05'E	534
Denmark	DK0003R	Tange	56º21'N	9º36'E	13
	DK0005R	Keldsnor	54º44'N	10º44'E	9
	DK0008R	Anholt	56º43'N	11º31'E	40
	DK0020R	Pedersker	55º01'N	14º56'E	5
	DK0022R	Sepstrup Sande	55º05'N	9º36'E	60
Estonia	EE0009R	Lahemaa	59º30'N	25º54'E	32
	EE0011R	Vilsandi	58º23'N	21º49'E	6
Finland	FI0004R	Ähtari	62º33'N	24º13'E	162
	FI0009R	Utö	59º47'N	21º23'E	7
	FI0017R	Virolahti II	60º31'N	27º41'E	4
	FI0022R	Oulanka	66º19'N	29º24'E	310
	FI0037R	Ähtari II	62º35'N	24º11'E	180
France	FR0008R	Donon	48º30'N	7º08'E	775
	FR0009R	Revin	49º54'N	4º38'E	390
	FR0010R	Morvan	47º16'N	4º05'E	620
	FR0012R	Iraty	43º02'N	1º05'W	1300
	FR0013R	Peyrusse Vielle	47º22'N	0º06'E	236
	FR0014R	Montandon	47º11'N	6º30'E	746
	FR0015R	La Tardière	49º37'N	1º50'E	133
	FR0016R	Le Casset	45º39'N	6º31'E	1750
	FR0017R	Montfranc	46º08'N	1º23'E	497
Germany	DE0001R	Westerland	54º55'N	8º18'E	12
	DE0002R	Langenbrügge	52º48'N	10º45'E	74
	DE0003R	Schauinsland	47º55'N	7º54'E	1205
	DE0004R	Deuselbach	49º46'N	7º03'E	480
	DE0005R	Brotjacklriegel	48º49'N	13º13'E	1016
	DE0007R	Neuglobsow	53º09'N	13º02'E	62
	DE0008R	Schmücke	50º39'N	10º46'E	937
	DE0009R	Zingst	54º26'N	12º44'E	1
	DE0041R	Westerland Tinnum	54º54'N	8º20'E	481
Greece	GR0002R	Finokalia	35º19'N	25º40'E	0
Hungary	HU0002R	K-puszta	46º58'N	19º35'E	125
Iceland	IS0002R	Irafoss	64º05N	21º01'W	61
	IS0090R	Reykjavik	64º05'N	21º01'W	66
	IS0091R	Storhofdi	63º24'N	20º17'W	118
Ireland	IE0001R	Valentina Observatory	51º56'N	10º14'W	9
Italy	IT0001R	Montelibretti	42º06'N	12º38'E	48
	IT0004R	Ispra	45º48'N	8º38'E	209
Latvia	LV0010R	Rucava	56º13'N	21º13'E	18
	LV0016R	Zoseni	57º08'N	25º55'E	183
Lithuania	LT0015R	Preila	55º21'N	21º04'E	5
Netherlands	NL0009R	Kollumerwaard	53º20'N	6º17'E	0

Table 1, cont.

Country	Station codes	Station name	Location		Height above sea (m)
			Lat.	Long.	
Norway	NO0001R	Birkenes	58º23'N	8º15'E	190
	NO0008R	Skreådalen	58º49'N	6º43'E	475
	NO0015R	Tustervatn	65º50'N	13º55'E	439
	NO0039R	Kårvatn	62º47'N	8º53'E	210
	NO0042G	Spitsbergen, Zeppelinfjell	78º54'N	11º53'E	474
	NO0055R	Karasjok	69º28'N	25º13'E	333
Poland	PL0002R	Jarczew	51º49'N	21º59'E	180
	PL0003R	Sniezka	50º44'N	15º44'E	1604
	PL0004R	Leba	54º45'N	17º32'E	2
	PL0005R	Diabla Gora	54º09'N	22º04'E	157
Portugal	PT0001R	Braganca	41º49'N	6º46'W	691
	PT0003R	Viana do Castelo	41º42'N	8º48'W	16
	PT0004R	Monte Velho	38º05'N	8º48'W	43
Russian Federation	RU0001R	Janiskoski	68º56'N	28º51'E	118
	RU0013R	Pinega	64º42'N	43º24'E	28
	RU0016R	Shepeljovo	59º58'N	29º07'E	4
	RU0017R	Dunai	73º59'N	124º30'E	474
Serbia and Montenegro	YU0005E	Kamenicki vis	43º24'N	21º57'E	813
Slovenia	SI0008R	Iskrba	45º34'N	14º52'E	520
Slovakia	SK0002R	Chopok	48º56'N	19º35'E	2008
	SK0004R	Stará Lesná	49º09'N	20º17'E	808
	SK0005R	Liesek	49º22'N	19º41'E	892
	SK0006R	Starina	49º03'N	22º16'E	345
	SK0007R	Topolniky	47º57'N	17º51'E	113
Spain	ES0007R	Viznar	37º14'N	3º32'W	1265
	ES0008R	Niembro	43º27'N	4º51'W	134
	ES0009R	Campisabolos	41º17'N	3º9'W	1360
	ES0010R	Cabo de Creus	42º19'N	3º19'E	23
	ES0011R	Barcarrola	38º29'N	6º55'W	393
	ES0012R	Zarra	39º5'N	1º6'W	885
	ES0013R	Penausende	41º17'N	5º52'W	985
	ES0014R	Els Torms	41º24'N	0º43'E	470
	ES0015R	Risco Llamo	39º31'N	4º21'W	1241
	ES0016R	O Saviñao	43º13'N	7º41'W	506
Sweden	SE0005R	Bredkälen	63º51'N	15º20'E	404
	SE0008R	Hoburgen	56º55'N	18º09'E	58
	SE0011R	Vavihill	56º01'N	13º09'E	172
	SE0012R	Aspvreten	58º48'N	17º23'E	20
	SE0014R	Råö	57º24'N	11º55'E	5
	SE0035R	Vindeln	64º15'N	19º46'E	225
Switzerland	CH0001G	Jungfraujoch	46º33'N	7º59'E	3573
	CH0002R	Payerne	46º48'N	6º57'E	510
	CH0003R	Tänikon	47º29'N	8º54'E	540
	CH0004R	Chaumont	47º03'N	6º59'E	1130
	CH0005R	Rigi	47º04'N	8º28'E	1030
Turkey	TR0001R	Cubuk II	40º30'N	33º00'E	1169
United Kingdom	GB0002R	Eskdalemuir	55º19'N	3º12'W	243
	GB0006R	Lough Navar	54º26'N	7º54'W	126
	GB0007R	Barcombe Mills	50º52'N	0º02'W	8
	GB0013R	Yarner Wood	50º36'N	3º43'W	119
	GB0014R	High Muffles	54º20'N	0º48'W	267
	GB0015R	Strath Vaich Dam	57º44'N	4º46'W	270
	GB0036R	Harwell	51º34'N	1º19'W	137
	GB0037R	Ladybower	53º23'N	1º45'W	420
	GB0038R	Lullington Heath	50º47'N	0º10'E	120
	GB0045R	Wicken Fen	52º17'N	0º17'W	5

3. Site codes

The site codes used in this report are the codes used for data submission and storage in the EMEP database. The codes consist of the two-letter ISO code for the countries, a four-digit number and a letter indicating the type of station, regional (R) or global (G). The station numbers have been retained from previous codes used.

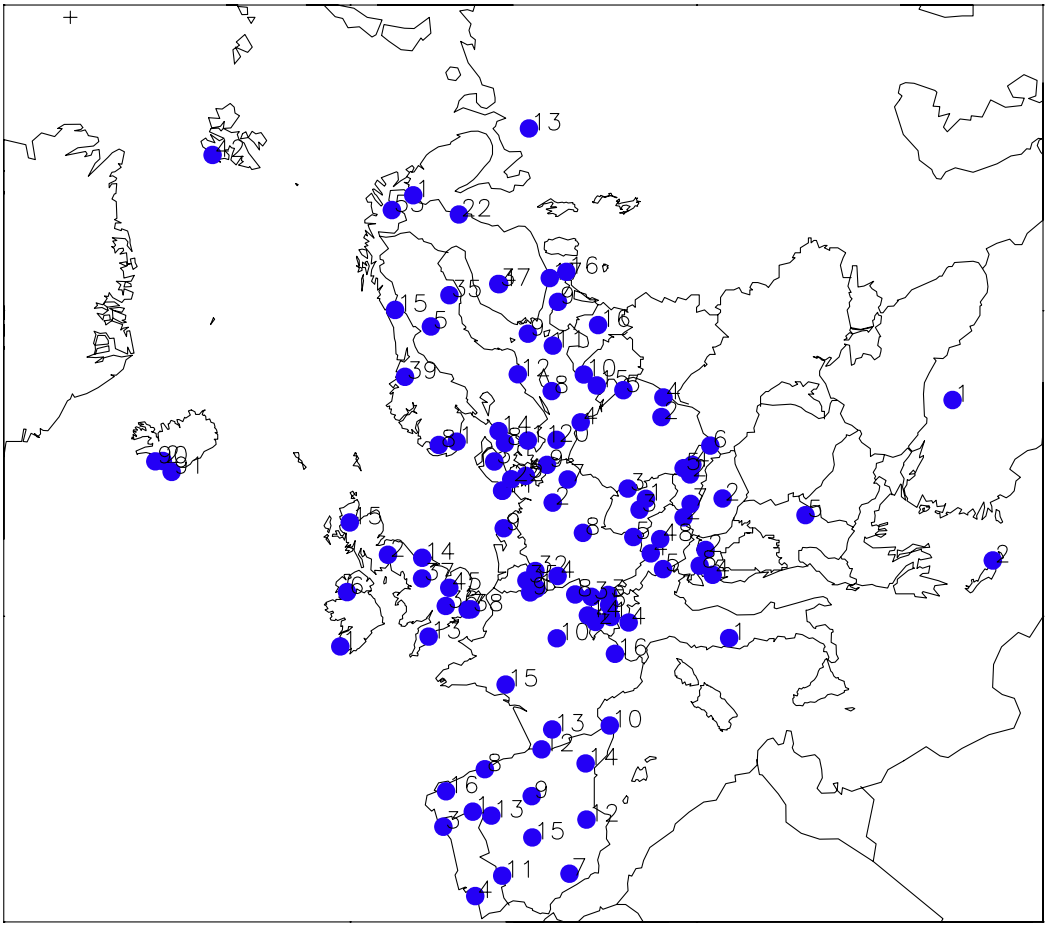

Figure 1: Location of the EMEP monitoring stations in operation in 2004. Sites with ozone/VOC measurements only are not included.

4. The measurement programme during 2004

EMEP's measurement programme during 2004 is presented in Table 2. A few sites have a less extensive measurement programme, as can be seen from the data tables in this report. Most sites measure air as well as precipitation components. However, some sites perform either the one or the other type of measurements.

Table 2: EMEP's measurement programme 2004.

	Components	Measurement period	Measurement frequency
Gas	SO_2, NO_2	24 hours	Daily
	O_3	hourly means stored	continuously
	Light hydrocarbons C_2-C_7	10-15 mins	twice weekly
	Ketones and aldehydes (VOC)	8 hours	twice weekly
	Hg	24 hours	weekly
Particles	SO_4^{2-}, NH_4^+, NO_3^-, Ca^{2+}, Mg^{2+}, Na^+, K^+, Cl^-	24 hours	daily
	Cd, Pb (first priority), Cu, Zn, As, Cr, Ni (second priority)	weekly	weekly
	PM mass	24 hours	daily
Gas + particles	HNO_3(g)+NO_3^-(p), NH_3(g)+NH_4^-(p)	24 hours	daily
	POPs (PAH, PCB, HCB, chlordane, lindane, α-HCH, DDT/DDE)	daily/weekly	once weekly
Precipitation	Amount, SO_4^{2-}, NO_3^-, Cl^-, pH, NH_4^+, Na^+, Mg^{2+}, Ca^{2+}, K^+, conductivity	24 hours/weekly	daily/weekly
	Hg, Cd, Pb (first priority), Cu, Zn, As, Cr, Ni (second priority)	weekly	weekly
	POPs (PAH, PCB, HCB, chlordane, lindane, α-HCH, DDT/DDE)	weekly	weekly

Measurements of VOC, heavy metals and POPs are made at a small number of sites only.

An evaluation of the VOC measurement programme within EMEP has been published earlier (Solberg et al., 1995). The VOC data from 2004 have been reported separately by Solberg (2006), while ozone data from 2004 have been reported by Fjæraa (2006). Heavy metals and POPs were reported by Aas and Breivik (2006).

A list of data reports from EMEP/CCC can be found in Annex 5. The most resent data reports are also available on the web in pdf and word format at http://www.nilu.no/projects/ccc/reports.html.

5. Sampling and analytical methods

The recommended procedures for sampling and analysis of precipitation and air are described in the EMEP Manual for sampling and chemical analysis (EMEP/CCC, 1996 – revised 2001). The latest version is also available on the web at http://www.nilu.no/projects/ccc/manual/. The methods used by the participating countries are given in Annex 4.

Generally, concentrations of gaseous nitric acid and ammonia, and of nitrate and ammonium in aerosol particles are determined by filter pack sampling. However, sampling artefacts due to the volatile nature of ammonium nitrate, and the possible interaction with strong acids, e.g. sulphuric acid, make separation of gases and particles by simple aerosol filters unreliable. Therefore only the sums of nitric acid and nitrate, and of ammonium and ammonia are unbiased.

6. Laboratory intercomparison

During 2004 the 22nd laboratory intercomparison of analytical methods was carried out. As usual most of the laboratories report acceptable data, but there are still some outliers. The intercomparison results are presented in Uggerud et al. (2006).

7. Calculation of excess sulphate in precipitation

The sulphate in precipitation is stored in the database as reported, i.e. total sulphate, and as corrected, non-marine sulphate, i.e. total sulphate minus sulphate originating from sea-salt particles.

When the sulphate concentrations originating from sea-salt are larger than the total sulphate, and the corrected sulphate concentrations consequently become less than zero, negative concentrations have been stored in the database and have been used to calculate averages in the report in order to avoid bias in the aggregates. Negative concentrations are mainly caused by random errors in the data and occur when non sea-salt sulphate concentrations are low compared to total sulphate.

CCC has since 1994 used a routine worked out by the Canadian Air and Precipitation Monitoring Network (CAPMoN) for calculation of the marine contribution to sulphate in precipitation. The routine has been adopted by the WMO GAW. A series of EMEP's sites will also report data to WMO, and common routines will necessarily fill the data bases with identical data. This is consequently a step in a harmonisation process between EMEP and WMO GAW.

Excess sulphate data as calculated with the old routine are available from the CCC as a continuation of the data series upon request.

8. Annual summaries of the data

8.1 Maps over Europe

Geographical distributions based on annual means of SO_2, NO_2 and SO_4^{--} in air and pH, NH_4^+, NO_3^-, Ca and excess SO_4^{--} in precipitation of are shown in Figures 1.1–1.4 in Annex 1.

8.2 Annual summaries in tables

Annual statistics of the precipitation data are given in Annex 2 and of the air data in Annex 3. The precipitation component summaries contain:

- the precipitation weighted arithmetic mean value,
- the minimum and maximum daily concentrations,
- the wet deposition,
- percent of total precipitation amount analysed for a specific component (completeness for precipitation data),
- the number of data below the detection limit.

The wet depositions have been obtained by multiplying the weighted mean concentration by the total amount of precipitation in the period. The concentrations for days with missing precipitation data have consequently been assumed to be equal to the weighted average of the period.

Concentrations less than zero may exist in the database for sulphate in precipitation corrected for sea-salt. This occurs whenever the sea-salt contribution is larger than the total sulphate concentration, and it is caused by random errors in the results. The negative values have been included in the estimation of the weighted arithmetic mean values.

For air components the statistical summaries in Annex 3 contain:

- arithmetic mean and standard deviation,
- geometric mean and standard deviation,
- minimum and maximum daily concentrations,
- 5-percentile, median and 95-percentile,
- data capture,
- the number of data below the detection limit and total number of samples.

A description of the calculation procedures is given in Annex 6.

In addition to the statistical summaries in Annex 2 and Annex 3 annual averages are summarized in Tables 3-6. The units used for the results in this report are given in Table 7 and Table 8.

Table 3: Annual averages of main components in precipitation 2004.

Code	mm	mm off	pH	SO_4	XSO_4	NH_4	NO_3	Na	Mg	Cl	Ca	K	cond
AT0002R	368.5	-	4.83	0.56	0.55	0.63	0.53	0.12	0.061	0.16	0.33	0.07	17
AT0005R	1099.1	-	4.98	0.28	0.27	0.33	0.45	0.06	0.048	0.10	0.25	0.04	10
AT0048R	1034.8	-	4.88	0.29	0.28	0.51	0.49	0.10	0.037	0.13	0.21	0.04	13
BY0004R	633.5	-	5.92	1.79	1.49	1.01	0.40	0.81	0.368	4.77	1.84	10.86	57
CH0002R	867.6	-	5.32	0.29	0.28	0.47	0.30	0.11	0.030	0.18	0.30	0.05	10
CH0004R	1098.6	-	5.20	0.24	0.23	0.29	0.24	0.12	0.027	0.21	0.21	0.04	8
CH0005R	1079.0	-	4.98	0.33	0.32	0.52	0.39	0.08	0.021	0.11	0.22	0.04	13
CZ0001R	865.6	-	4.68	0.50	0.49	0.60	0.45	0.15	0.032	0.21	-	0.10	19
CZ0003R	635.1	-	4.78	0.62	0.60	0.68	0.62	0.17	0.037	0.32	0.21	0.14	18
AT0004R	134.5	-	4.46	0.29	0.27	0.34	0.76	0.22	0.031	0.25	0.21	0.03	22
DE0001R	688.0	-	4.75	0.97	0.37	0.42	0.45	7.17	0.847	11.89	0.39	0.25	49
DE0002R	519.6	-	4.78	0.53	0.53	0.69	0.58	0.47	0.074	0.81	0.23	0.07	18
DE0003R	1418.3	-	4.96	0.28	0.27	0.31	0.30	0.17	0.032	0.27	0.21	0.03	9
DE0007R	413.2	-	4.74	0.54	0.50	0.61	0.54	0.39	0.068	0.66	0.27	0.08	14
DE0008R	1264.4	-	4.71	0.42	0.40	0.45	0.48	0.26	0.041	0.42	0.16	0.04	13
DE0009R	581.6	-	4.75	0.55	0.46	0.55	0.51	1.08	0.154	1.82	0.27	0.12	18
DK0005R	619.1	-	5.02	0.53	0.40	0.56	0.47	1.53	0.173	2.59	0.25	0.24	22
DK0008R	597.0	-	4.61	0.59	0.37	0.42	0.47	2.64	0.278	4.55	0.16	0.12	33
DK0022R	911.3	-	4.82	0.50	0.32	0.43	0.39	2.20	0.212	3.50	0.11	0.10	26
EE0009R	768.0	-	4.69	0.25	0.23	0.08	0.13	0.17	0.031	0.35	0.15	0.08	9
EE0011R	629.3	-	4.71	0.51	0.42	0.47	0.21	1.05	0.153	1.53	0.37	0.19	18
ES0008R	662.4	-	4.36	1.30	0.78	0.53	1.54	6.78	0.782	9.60	0.97	0.37	67
ES0009R	474.2	-	6.19	0.42	0.39	0.20	0.33	0.29	0.073	1.00	1.21	0.10	11
FI0004R	620.6	-	4.75	0.24	0.23	0.17	0.22	0.14	0.028	0.20	0.09	0.06	11
FI0009R	288.3	582.5	4.60	0.49	0.36	0.27	0.44	1.47	0.181	2.37	0.16	0.10	25
FI0017R	579.8	-	4.65	0.46	0.44	0.26	0.34	0.26	0.052	0.45	0.20	0.19	17
FI0022R	498.5	-	4.72	0.21	0.20	0.07	0.15	0.09	0.015	0.13	0.04	0.05	10
FR0008R	1474.7	-	4.83	0.32	0.30	0.34	0.34	0.24	0.033	0.42	0.15	0.03	13
FR0009R	1064.2	-	4.86	0.40	0.36	0.46	0.36	0.47	0.060	0.83	0.18	0.05	15
FR0010R	1060.3	-	5.11	0.36	0.33	0.35	0.31	0.46	0.063	0.73	0.35	0.16	12
FR0012R	1373.3	-	5.06	0.43	0.38	0.32	0.25	0.58	0.085	0.96	0.37	0.04	13
FR0013R	804.2	-	4.91	0.46	0.38	0.35	0.29	0.93	0.118	1.57	0.32	0.07	17
FR0014R	1076.5	-	4.99	0.30	0.28	0.36	0.32	0.17	0.028	0.29	0.23	0.04	11
FR0015R	832.1	-	5.18	0.45	0.30	0.41	0.23	1.87	0.235	3.27	0.24	0.09	20
FR0016R	619.0	-	5.38	0.39	0.38	0.23	0.26	0.15	0.061	0.25	1.18	0.07	12
FR0017R	1140.8	-	5.01	0.37	0.33	0.32	0.28	0.45	0.066	0.75	0.29	0.04	12
GB0002R	1663.5	-	4.97	0.33	0.23	0.25	0.21	1.24	0.131	2.11	0.11	0.10	15
GB0013R	1034.1	-	4.86	0.55	0.35	0.28	0.25	2.52	0.279	4.22	0.20	0.16	26
GB0014R	838.2	-	4.76	0.61	0.52	0.51	0.44	1.22	0.150	2.10	0.25	0.12	22
GB0015R	1426.6	-	5.01	0.34	0.11	0.05	0.09	2.85	0.314	4.93	0.15	0.10	23
HR0002R	-	1279.5	5.47	0.51	0.47	0.61	0.35	0.51	0.380	0.52	2.32	0.46	15
HR0004R	-	2166.4	5.42	0.48	0.41	0.34	0.35	0.61	0.198	1.13	2.39	0.14	16
HU0002R	449.9	680.7	5.55	0.84	0.75	0.28	0.37	1.07	0.210	0.55	0.88	0.19	17
IE0001R	1505.4	1399.7	5.18	1.07	0.19	0.16	0.12	10.54	1.318	19.13	0.51	0.80	77
IS0002R	2718.9	-	5.49	0.45	-	-	-	3.44	-	-	-	-	-
IS0090R	970.8	939.8	5.39	0.96	0.24	0.29	0.13	8.72	1.049	15.58	0.46	0.32	62
IS0091R	1607.1	1817.7	5.52	8.43	(-1.61)	0.08	0.27	136.65	16.618	186.14	5.39	4.06	560
IT0001R	936.3	-	5.65	2.32	2.08	0.42	4.29	2.70	0.405	4.71	1.86	0.66	33
IT0004R	1437.0	-	4.86	0.52	0.50	0.93	0.63	0.21	0.042	0.34	0.40	0.11	18
LT0015R	469.7	-	4.70	0.69	0.48	0.49	0.53	2.59	-	4.48	0.39	0.22	34
LV0010R	653.3	-	4.73	0.50	0.44	0.47	0.51	0.60	0.104	1.08	0.23	0.07	20
LV0016R	725.2	-	5.39	0.33	0.29	0.43	0.29	0.41	0.103	0.36	0.34	0.13	13

Table 3, cont.

Code	mm	mm off	pH	SO_4	XSO_4	NH_4	NO_3	Na	Mg	Cl	Ca	K	cond
NO0001R	1700.5	-	4.69	0.45	0.36	0.33	0.36	1.08	0.137	1.77	0.12	0.06	21
NO0008R	2531.2	-	5.07	0.26	0.16	0.21	0.19	1.18	0.148	1.99	0.14	0.13	15
NO0015R	1428.0	-	5.50	0.19	0.04	0.17	0.07	1.81	0.234	3.05	0.20	0.15	16
NO0039R	2001.1	-	5.40	0.16	0.06	0.07	0.04	1.22	0.158	2.12	0.11	0.09	11
NO0055R	332.0	-	5.14	0.23	0.20	0.16	0.13	0.41	0.044	0.61	0.11	0.25	8
PL0002R	560.8	-	4.61	0.74	0.73	0.72	0.49	0.14	0.033	0.43	0.22	0.08	22
PL0003R	1035.6	-	4.55	0.76	0.71	0.38	0.80	0.59	0.118	0.68	0.55	0.27	25
PL0004R	825.4	-	4.67	0.43	0.38	0.38	0.40	0.66	0.086	1.27	0.14	0.07	20
PL0005R	734.4	722.8	4.70	0.54	0.51	0.49	0.43	0.29	0.063	0.66	0.23	0.13	16
PT0001R	-	455.8	5.68	0.20	0.17	0.31	0.11	0.33	0.085	0.42	0.57	0.14	10
PT0003R	-	2233.0	5.29	0.38	0.18	0.05	0.09	2.45	0.387	3.92	0.53	0.17	19
PT0004R	-	357.0	5.02	0.67	0.29	0.21	0.18	4.53	0.593	7.02	1.01	0.36	33
RU0001R	452.6	-	4.83	0.52	0.47	0.17	0.11	0.91	0.055	1.20	0.21	0.42	13
RU0013R	138.0	-	5.55	0.72	0.65	0.39	0.14	0.78	0.165	0.80	0.73	0.48	18
RU0016R	416.7	-	4.89	1.06	0.94	0.54	0.32	1.38	0.206	2.34	0.60	0.44	24
RU0017R	704.8	-	4.83	0.82	0.79	0.40	0.34	0.49	0.090	0.49	0.52	0.35	13
SE0005R	319.1	-	5.09	0.14	0.13	0.11	0.10	0.11	0.018	0.19	0.07	0.05	6
SE0011R	791.3	-	4.72	0.51	0.43	0.48	0.45	0.93	0.123	1.60	0.11	0.07	21
SE0014R	726.6	-	4.68	0.63	0.39	0.46	0.44	2.96	0.376	5.06	0.20	0.15	36
SI0008R	1585.4	1765.8	4.82	0.46	0.43	0.30	0.33	0.29	0.056	0.48	0.33	0.05	14
SK0002R	1182.5	-	4.71	0.56	0.55	0.39	0.30	0.19	0.025	0.21	0.20	0.15	15
SK0004R	868.5	-	4.72	0.67	0.65	0.47	0.35	0.26	0.035	0.30	0.26	0.23	18
SK0005R	760.0	-	0.39	0.67	0.65	0.43	0.39	0.22	0.040	0.33	0.31	0.20	29
SK0006R	981.3	-	4.67	0.65	0.63	0.42	0.38	0.27	0.037	0.28	0.36	0.26	18
SK0007R	80.2	-	4.56	0.54	0.51	0.34	0.47	0.35	0.042	0.38	0.27	0.34	20
TR0001R	218.8	-	5.56	0.90	0.86	0.39	0.34	0.43	0.108	0.42	1.77	0.14	19
YU0005R	830.8	-	6.05	1.67	1.65	0.79	0.58	0.35	0.155	1.01	2.37	0.30	27

Table 4: Annual averages of main components in air 2004.

Code	SO_2-S	NO_2-N	SO_4-S	XSO_4-S	SNO_3-N	NO_3-N	HNO_3	SNH_4	NH_4	NH_3
AT0002R	1.81	2.19	0.82	-	-	0.15	0.83	-	0.65	1.86
AT0004R	0.41	-	-	-	-	-	-	-	-	-
AT0005R	0.35	1.69	-	-	-	-	-	-	-	-
AT0048R	0.32	1.37	-	-	-	-	-	-	-	-
BE0001R	-	4.30	-	-	-	-	-	-	-	-
BE0032R	-	4.45	-	-	-	-	-	-	-	-
CH0001G	0.07	0.11	0.10	-	-	-	-	-	-	-
CH0002R	0.49	4.38	0.70	-	1.03	-	-	4.12	-	-
CH0003R	-	4.45	-	-	-	-	-	-	-	-
CH0004R	0.50	1.81	-	-	-	-	-	-	-	-
CH0005R	0.34	4.36	0.50	-	0.79	-	-	1.80	-	-
CZ0001R	1.17	2.63	0.82	-	0.78	-	-	1.68	-	-
CZ0003R	0.88	2.78	0.91	-	0.81	-	-	2.16	-	-
DE0002R	0.77	2.90	-	-	-	-	-	-	-	-
DE0003R	0.41	0.97	0.58	-	0.62	-	-	-	-	-
DE0007R	0.66	2.08	0.87	-	0.79	-	-	-	-	-
DE0008R	0.53	1.90	-	-	-	-	-	-	-	-
DE0009R	0.77	2.27	0.87	-	0.94	-	-	-	-	-
DE0041R	0.56	2.29	0.81	-	0.93	-	-	1.45	-	-
DK0003R	0.26	-	0.69	-	0.72	-	-	2.08	-	-
DK0005R	-	2.20	-	-	-	-	-	-	-	-
DK0008R	0.50	1.52	0.79	-	0.70	-	-	1.06	-	-
EE0009R	1.26	2.68	-	-	-	-	-	-	-	-
EE0011R	0.79	2.04	-	-	-	-	-	-	-	-
ES0007R	0.36	2.45	0.81	-	0.39	0.49	-	0.70	-	
ES0008R	2.19	2.02	1.19	-	0.47	0.37	-	0.32	-	-
ES0009R	0.38	0.93	0.56	-	0.27	0.26	-	1.24	-	-
ES0010R	0.27	1.64	1.31	-	0.55	0.55	-	1.18	-	-
ES0011R	0.52	1.34	0.83	-	0.31	0.28	-	0.48	-	-
ES0012R	0.47	1.15	1.00	-	0.54	0.45	-	1.99	-	-
ES0013R	0.76	1.21	0.72	-	0.19	0.30	-	1.42	-	-
ES0014R	0.44	1.45	1.32	-	0.62	0.62	-	5.25	-	-
ES0015R	0.57	0.92	0.63	-	0.34	0.35	-	0.71	-	-
ES0016R	1.50	1.69	1.02	-	0.27	0.24	-	1.08	-	-
FI0009R	0.43	1.38	0.54	-	0.35	-	-	0.42	-	-
FI0017R	0.72	1.73	0.62	-	0.27	-	-	0.52	-	-
FI0022R	0.21	0.30	0.38	-	0.06	-	-	0.15	-	-
FI0037R	0.26	1.06	0.42	-	0.15	-	-	0.31	-	-
FR0008R	0.46	5.57	0.47	-	-	-	-	-	-	-
FR0009R	0.71	-	0.69	-	-	-	-	-	-	-
FR0010R	0.29	-	0.47	-	-	-	-	-	-	-
FR0012R	0.47	-	0.52	-	-	-	-	-	-	-
FR0013R	0.55	4.08	0.64	-	-	-	-	-	-	-
FR0014R	0.24	-	0.31	-	-	-	-	-	-	-
FR0015R	0.39	9.75	0.60	-	-	-	-	-	-	-
FR0016R	0.23	-	0.31	-	-	-	-	-	-	-
FR0017R	0.28	-	0.50	-	-	-	-	-	-	-
GB0002R	0.22	-	0.36	-	-	-	-	-	-	-
GB0006R	0.06	-	0.29	-	-	-	-	-	-	-
GB0007R	-	-	0.78	-	-	-	-	-	-	-
GB0013R	0.38	-	0.48	-	-	-	-	-	-	-
GB0014R	0.78	-	0.51	-	-	-	-	-	-	-
GB0015R	0.06	-	-	-	-	-	-	-	-	-
GB0036R	-	12.00	-	-	-	-	-	-	-	-

Table 4, cont.

Code	SO_2-S	NO_2-N	SO_4-S	XSO_4-S	SNO_3-N	NO_3-N	HNO_3	SNH_4	NH_4	NH_3
GB0037R	-	9.25	-	-	-	-	-	-	-	-
GB0038R	-	10.22	-	-	-	-	-	-	-	-
GB0045R	-	11.28	-	-	-	-	-	-	-	-
HU0002R	1.65	1.54	1.21	-	-	0.54	0.21	-	1.06	1.08
IE0001R	0.19	0.47	0.38	-	0.24	-	-	0.67	-	-
IS0002R	-	-	0.06	-	-	-	-	-	-	-
IS0091R	-	-	0.63	-	-	0.07	-	-	-	-
IT0001R	0.62	5.69	0.98	-	-	0.23	0.40	-	1.61	1.70
IT0004R	1.10	4.76	1.06	-	-	0.99	-	-	1.65	-
LT0015R	0.83	1.20	0.95	-	0.67	-	-	1.69	-	-
LV0010R	0.60	0.89	0.45	-	0.39	0.08	-	1.06	0.62	-
LV0016R	0.50	0.60	0.39	-	0.23	0.05	-	0.85	0.59	-
NL0009R	-	3.60	-	-	-	-	-	-	1.24	-
NO0001R	0.13	0.46	0.35	0.32	0.26	0.18	0.08	0.53	0.29	0.24
NO0008R	0.09	0.43	0.30	0.27	0.24	0.18	0.06	1.01	0.23	0.78
NO0015R	0.09	0.17	0.21	0.19	0.09	0.06	0.03	0.93	0.12	0.83
NO0039R	0.07	0.21	0.20	0.19	0.08	0.04	0.04	0.48	0.10	0.39
NO0042G	0.12	-	0.16	0.15	0.08	0.05	0.03	0.24	0.04	0.20
NO0055R	0.32	0.19	0.25	0.23	0.11	0.07	0.04	-	0.15	-
PL0002R	2.23	2.83	1.38	-	0.81	0.69	-	2.63	1.63	-
PL0003R	1.09	1.06	0.73	-	0.29	0.22	-	0.73	0.59	-
PL0004R	1.27	1.68	1.20	-	0.55	0.44	-	1.39	0.97	-
PL0005R	0.66	0.72	0.66	-	0.71	-	-	1.57	-	-
RU0001R	0.72	-	0.51	-	-	0.07	-	-	0.24	-
RU0017R	0.28	-	0.33	-	-	0.15	-	-	0.31	-
SE0005R	0.05	0.13	0.20	-	0.06	-	-	0.19	-	-
SE0008R	0.55	1.04	0.58	-	-	-	-	-	-	-
SE0011R	0.37	1.48	0.54	-	0.45	-	-	0.88	-	-
SE0014R	0.45	1.45	0.67	-	0.49	-	-	0.67	-	-
SI0008R	0.46	0.77	0.69	0.68	0.27	-	-	0.85	-	-
SK0002R	0.45	0.97	0.41	-	-	-	-	-	-	
SK0005R	1.96	1.93	1.02	-	-	0.46	0.04	-	-	-
SK0006R	1.30	1.61	1.11	-	-	0.36	0.05	-	-	-
SK0007R	1.94	2.76	1.23	-	-	0.96	0.06	-	-	-
TR0001R	1.09	1.09	0.63	-	0.25	0.15	0.09	0.70	0.38	0.34
YU0005R	2.82	2.64	-	-	-	-	-	-	-	-

Table 5: Annual averages of base cations and sodium and chloride in aerosols.

Code	Na	Ca	Mg	K	Cl
AT0002R	0.08	0.15	0.03	0.15	-
DK0003R	1.05	-	-	-	-
DK0008R	1.70	-	-	-	-
IE0001R	1.93	0.14	0.74	0.11	-
IS0091R	-	-	-	-	10.57
NO0001R	0.37	-	0.05	0.05	0.35
NO0008R	0.36	0.09	0.05	0.04	0.41
NO0015R	0.30	0.04	0.04	0.02	0.37
NO0039R	0.21	0.05	0.03	0.02	0.21
NO0042G	0.20	0.04	0.04	0.01	0.21
NO0055R	0.19	0.03	0.03	0.02	0.18
SI0008R	0.07	0.12	0.02	0.10	0.03

Table 6: Annual averages of particulate matter.

Code	PM_{10}	PM_{10}-$PM_{2.5}$	$PM_{2.5}$	PM_1	SPM
AT0002R	24.54	-	19.14	14.03	-
AT0005R	10.41	-	-	-	-
AT0048R	10.86	-	9.17	-	-
CH0001G	-	-	-	-	3.17
CH0002R	19.98	-	14.86	-	-
CH0003R	19.43	-	-	-	-
CH0004R	11.24	-	8.15	6.54	-
CH0005R	11.95	-	-	-	-
CY0002R	29.85	-	-	-	-
DE0002R	17.51	-	13.29	7.52	-
DE0003R	10.43	-	7.21	-	-
DE0007R	13.78	-	-	-	-
DE0008R	10.34	-	-	-	-
DE0009R	15.19	-	-	-	-
DE0041R	19.12	-	-	-	-
DK0005R	20.29	-	-	-	-
DK0020R	20.29	-	-	-	-
ES0007R	24.44	-	11.09	-	-
ES0008R	16.40	-	9.64	-	-
ES0009R	13.25	-	8.42	-	-
ES0010R	21.11	-	12.78	-	-
ES0011R	18.60	-	10.69	-	-
ES0012R	17.23	-	8.32	-	-
ES0013R	13.26	-	8.47	-	-
ES0014R	22.28	-	12.61	-	-
ES0015R	15.91	-	8.25	-	-
ES0016R	13.29	-	9.14	-	-
IT0001R	28.96	-	-	-	-
IT0004R	34.71	-	28.25	-	-
LT0015R	-	-	-	-	16.15
NO0001R	5.58	2.07	3.28	-	-

Table 6, cont.

Code	PM_{10}	PM_{10}-$PM_{2.5}$	$PM_{2.5}$	PM_1	SPM
SE0005R	-	-	-	-	0.48
SE0008R	-	-	-	-	1.67
SE0011R	13.74	-	9.77	-	1.28
SE0012R	10.51	-	7.05	-	-
SE0014R	-	-	-	-	0.93
SE0035R	7.83	-	-	-	-
SK0002R	-	-	-	-	7.54
SK0004R	13.74	-	-	-	-
SK0005R	17.94	-	-	-	-
SK0006R	16.36	-	-	-	-
SK0007R	-	-	-	-	20.06

Table 7: Units used for precipitation components.

Precipitation components	Units for W. mean, Min., Max.	Units for depositions
Amount	mm	mm
SO_4^{--}	mg S/l	mg S/m^2
NO_3^-	mg N/l	mg N/m^2
Cl^-	mg Cl/l	mg Cl/m^2
NH_4^+	mg N/l	mg N/m^2
H^+	µe H^+/l	µe H^+/m^2
pH	pH-units	µe H^+/m^2
Na^+	mg Na/l	mg Na/m^2
Mg^{2+}	mg Mg/l	mg Mg/m^2
K^+	mg K/l	mg K/m^2
Ca^{2+}	mg Ca/l	mg Ca/m^2

Table 8: Units used for air components.

Air components	Units for arithmetic and geometric mean values, arithmetic standard deviations, Min., Max, percentiles.
SO_2	µg S/m^3
NO_2	µg N/m^3
HNO_3	µg N/m^3
NH_3	µg N/m^3
SO_4^{2-}	µg S/m^3
NO_3^-	µg N/m^3
NH_4^+	µg N/m^3
H^+	Ne H^+/m^3
SPM, PM	µg/m^3
HNO_3 + NO_3^-	µg N/m^3
NH_3 + NH_4^+	µg N/m^3
Ca^{++}	µg/m^3
Cl^-	µg/m^3
Mg^{++}	µg/m^3
K^+	µg/m^3
Na^+	µg/m^3

9. Update

The data compiled in this report represent the best data available at present. If any further errors are detected, the data will be corrected in the database. It is important that users make certain that they have access to the most recent version of the database. For the data presented here the latest alteration was 6 June, 2006.

Scientific use of the EMEP data should be based on fresh copies of the data. Copies can be requested from the CCC (e-mail: anne-gunn.hjellbrekke@nilu.no) or downloaded from the internet at http://www.nilu.no/projects/ccc/. Information about the EMEP network and measurement data can also be found at http://www.emep.int.

10. References

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Closer at home, and of equal significance to the presentation of our work, the secretarial work, and far beyond, has been performed by Ms. Kristine Aasarød. Rita L. Våler and Mona Waagsbø have been very helpful with data flow and data base maintenance.

12. List of participating institutions

Austria	Umweltbundesamt
Belarus	Institute for Problems of Natural Resources and Ecology
Belgium	CELINE - IRCEL
Commission of the European Communities	Joint Research Center. Ispra Establishment
Croatia	Meteorological and Hydrological Service of Croatia
Cyprus	Ministry of Labour and Social Insurance
Czech Republic	Czech Hydrometeorological Institute
Denmark	National Environmental Research Institute (DMI)
Estonia	Estonian Environmental Research Laboratory Ltd.
Finland	Finnish Meteorological Institute (FMI)
France	l' Ecole des Mines de Douai Laboratories Wolff
Germany	Umweltbundesamt
Greece	Ministry of Environmental Physical Planning and Public Works University of Crete
Hungary	Meteorological Service, Institute for Atmospheric Physics, Dep. for Air Chemistry
Iceland	The Icelandic Meteorological Office
Ireland	Meteorological Service H.Q. Electricity Supply Board (ESB)
Italy	C.N.R. Istituto Inquinamento Atmosferico
Latvia	Latvian Environment, Geology and Meteorology Agency
Lithuania	Environmental Physics and Chemistry Laboratory, Institute of Physics
Netherlands	National Institute for Public Health and Environmental Protection (RIVM)
Norway	Norwegian Institute for Air Research (NILU)
Poland	Institute of Meteorology and Water Management Institute of Environmental Protection
Portugal	Instituto de Meteorologica
Russian Federation	Institute of Global Climate and Ecology
Serbia and Montenegro	Federal Hydrometeorological Institute
Slovakia	Slovak Hydrometeorological Institute
Slovenia	Hydrometeorological Institute of Slovenia
Spain	Dirección General de Calidad y Evaluacíon Ambiental
Sweden	Swedish Environmental Research Institute (IVL)
Switzerland	Swiss Federal Laboratory of Testing Materials and Research (EMPA)
Turkey	Refik Saydam Centre of Hygiene
United Kingdom	AEA Technology

Annex 1

Maps over Europe

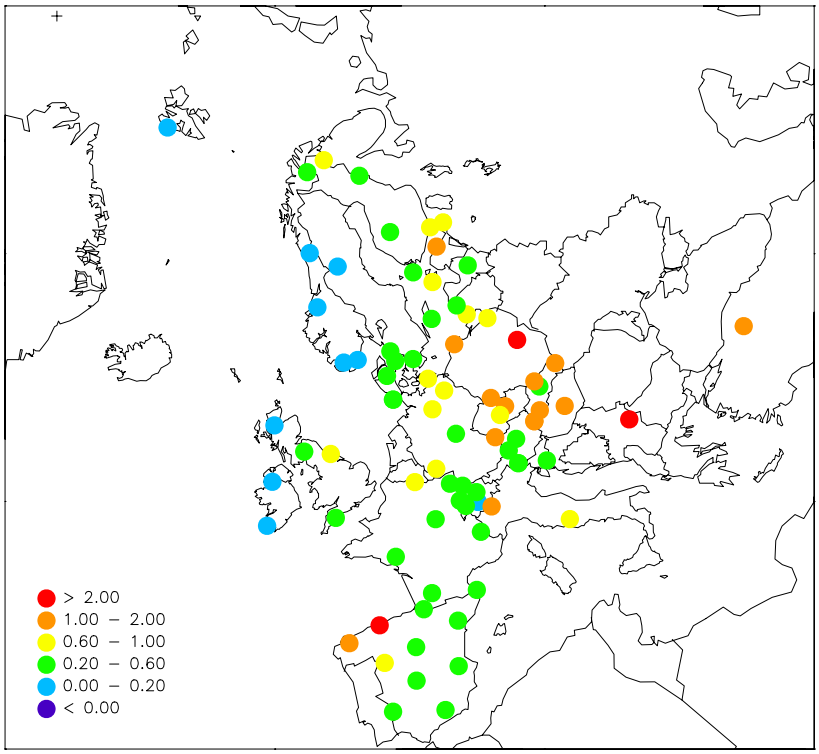

Figure 1.1: Geographical distribution of sulphur dioxide 2004. Unit: μg S/m^3.

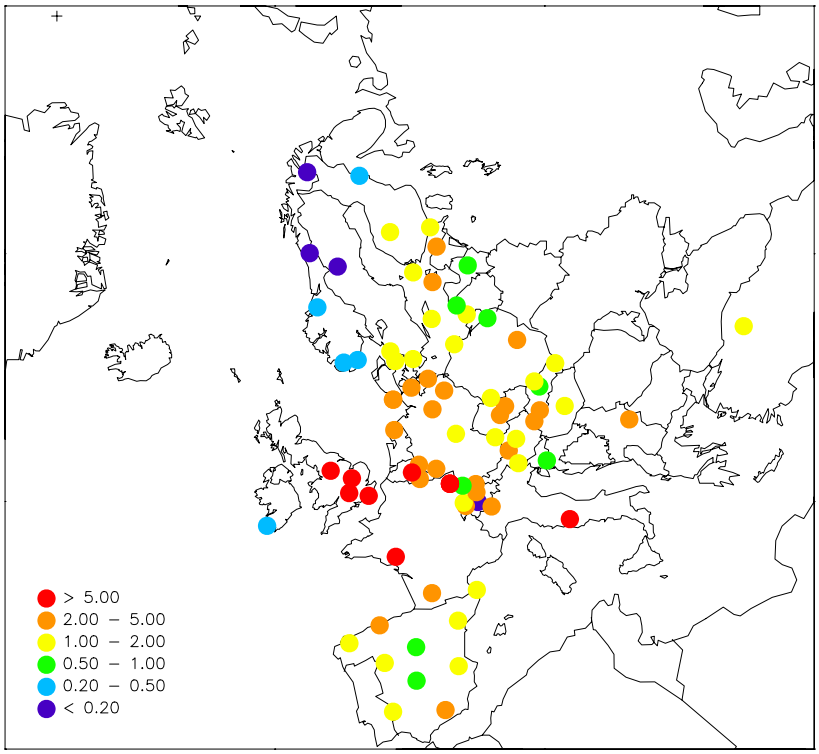

Figure 1.2: Geographical distribution of nitrogen dioxide 2004. Unit: μg N/m^3.

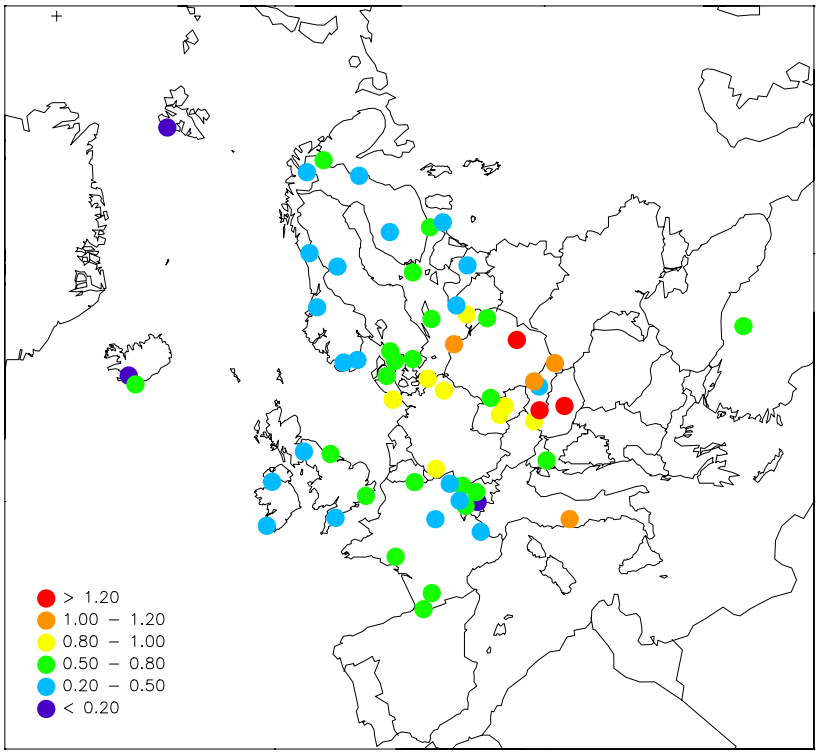

Figure 1.3: Geographical distribution of sulphate in aerosols 2004. Unit: μg S/m^3.

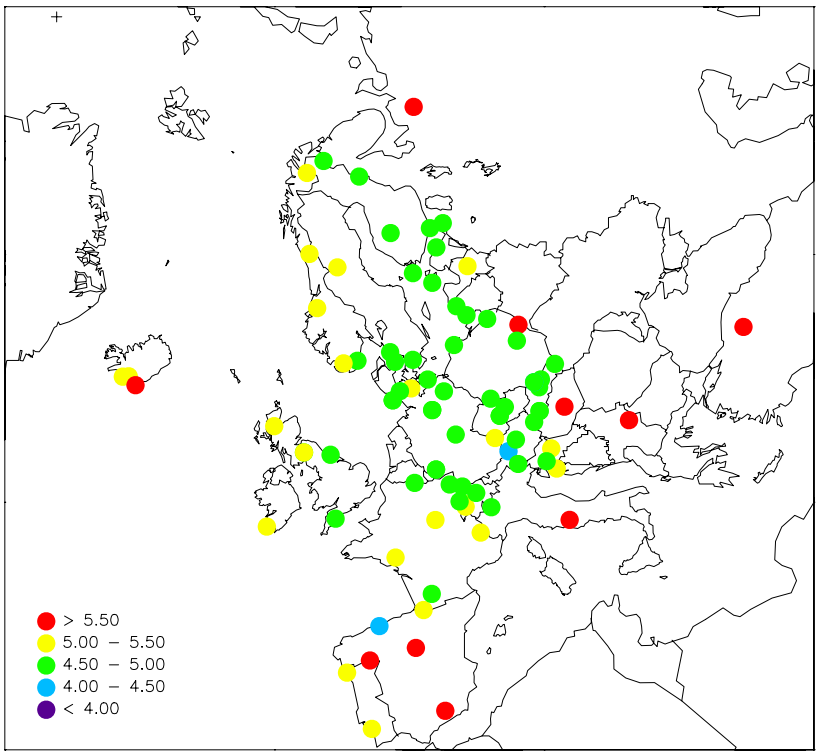

Figure 1.4: Geographical distribution of pH in precipitation 2004. Unit: pH units.

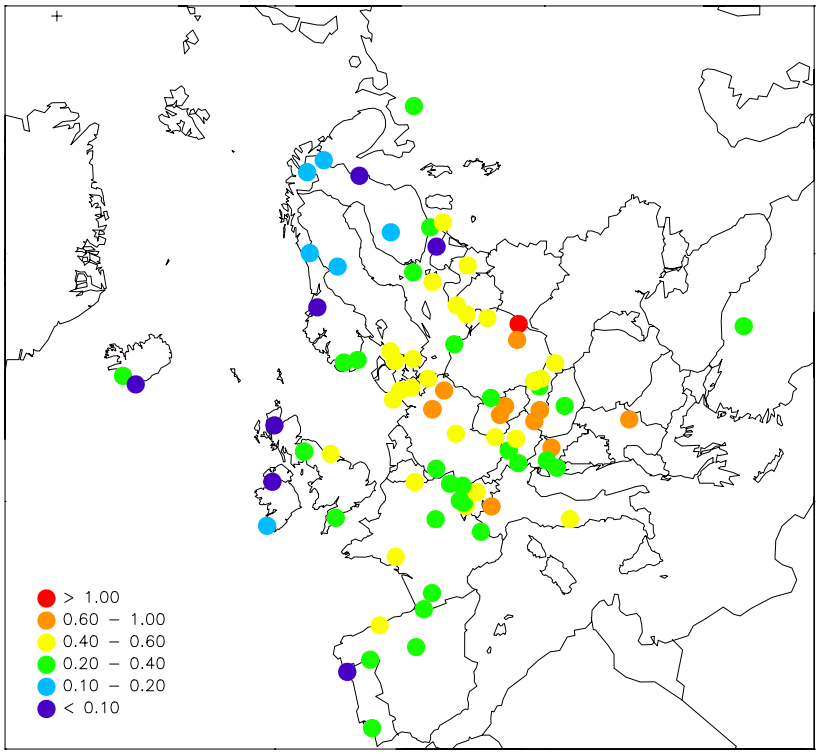

Figure 1.5: Geographical distribution of ammonium in precipitation 2004. Unit: mg N/l.

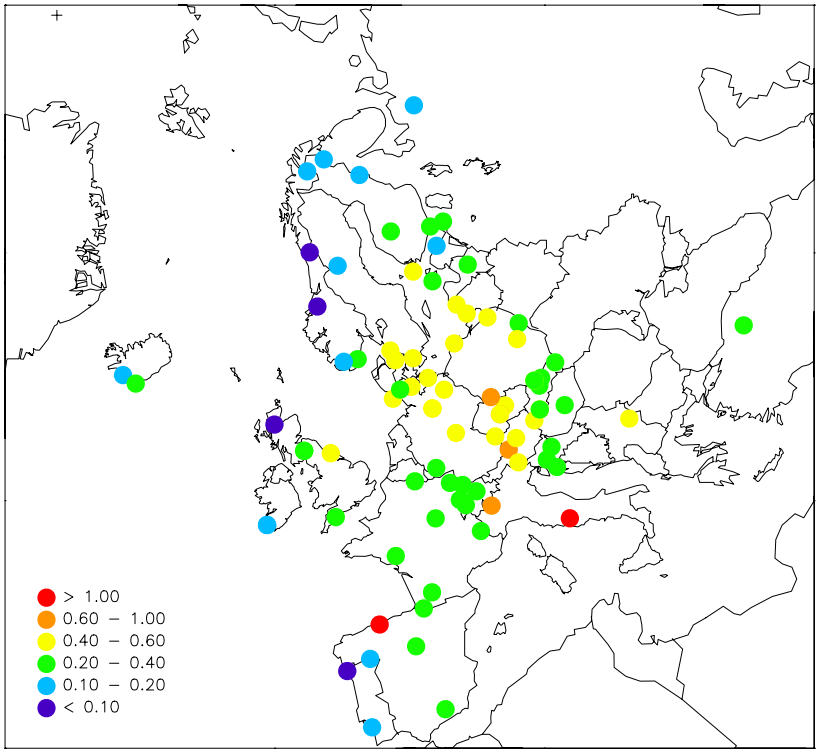

Figure 1.6: Geographical distribution of nitrate in precipitation 2004. Unit: mg N/l.

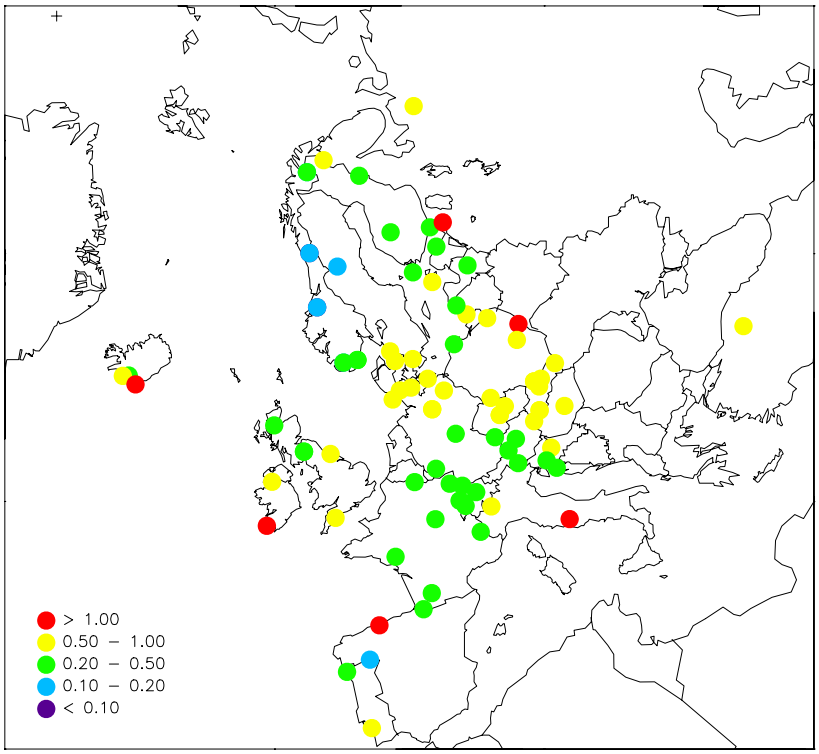

Figure 1.7: Geographical distribution of sulphate in precipitation 2004 (corrected for sea spray). Unit: mg S/l.

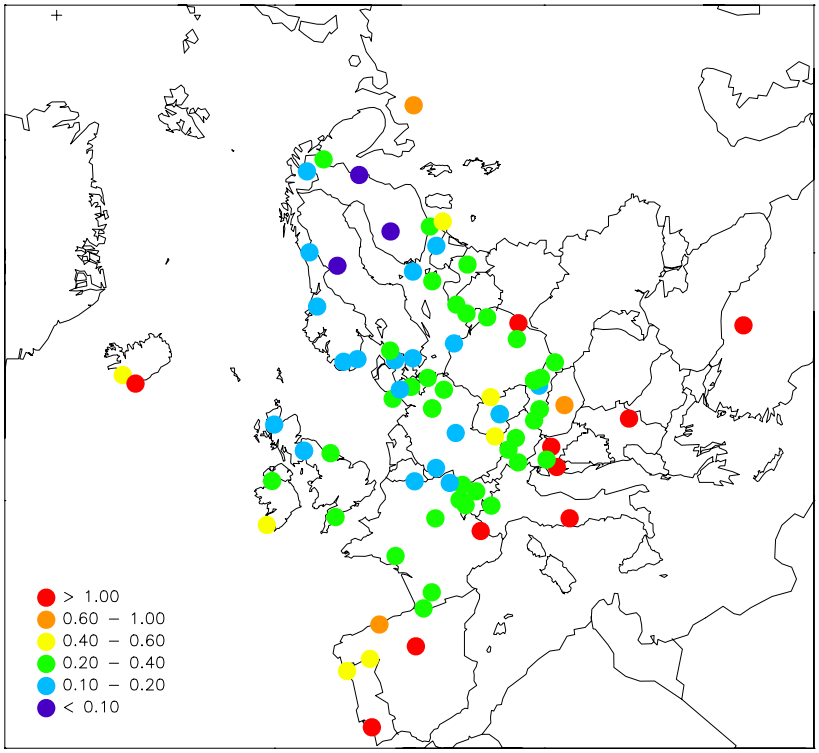

Figure 1.8: Geographical distribution of calcium in precipitation 2004. Unit: mg/l.

Annex 2

Annual statistics on precipitation data

AT0002R Illmitz Austria

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.33	0.00	5.30	120.6	100.0	0	92
Cl-	0.16	0.00	2.50	58.0	100.0	1	92
K+	0.07	0.01	1.47	24.1	98.4	14	91
Mg++	0.061	0.009	1.525	22.4	100.0	1	92
NH4+	0.63	0.07	4.95	233.4	100.0	0	92
NO3-	0.53	0.12	7.98	196.3	100.0	0	92
Na+	0.12	0.01	4.08	43.3	100.0	4	92
Precip	-	0.0	22.7	368.5	99.9	274	366
SO4--	0.56	0.07	6.08	206.5	100.0	0	92
SO4-- corr	0.55	0.06	6.03	201.4	100.0	0	92
cond	16.82	5.00	104.00	6197.4	100.0	0	92
pH	4.83	3.99	6.85	5465.3	100.0	0	92

AT0004R St. Koloman Austria

January 2004 – 11 March 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.21	0.00	6.50	28.3	100.0	0	35
Cl-	0.25	0.00	3.50	34.1	100.0	0	35
K+	0.03	0.01	0.33	4.2	100.0	4	35
Mg++	0.031	0.005	0.220	4.1	100.0	3	35
NH4+	0.34	0.04	3.60	46.0	100.0	0	35
NO3-	0.76	0.01	3.88	102.2	100.0	0	35
Na+	0.22	0.01	2.11	29.6	100.0	0	35
Precip	-	0.0	21.8	134.5	18.9	34	69
SO4--	0.29	0.06	2.31	39.0	100.0	0	35
SO4-- corr	0.27	0.03	2.29	36.7	100.0	0	35
cond	21.61	4.00	110.00	2905.9	100.0	0	35
pH	4.46	3.70	6.82	4642.4	100.0	0	35

AT0005R Vorhegg Austria

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.25	0.00	3.10	277.1	100.0	1	108
Cl-	0.10	0.00	2.70	107.5	100.0	10	108
K+	0.04	0.01	1.78	39.6	99.4	29	107
Mg++	0.048	0.005	0.772	52.6	100.0	4	108
NH4+	0.33	0.01	4.17	365.7	100.0	2	108
NO3-	0.45	0.01	6.32	493.6	100.0	0	108
Na+	0.06	0.01	1.74	64.6	100.0	17	108
Precip	-	0.0	39.5	1099.1	99.9	258	366
SO4--	0.28	0.01	1.93	308.1	100.0	0	108
SO4-- corr	0.27	-0.01	1.91	295.4	100.0	0	108
cond	9.79	2.00	84.00	10754.2	100.0	0	108
pH	4.98	4.01	6.52	11437.6	100.0	0	108

AT0048R Zoebelboden Austria

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.21	0.00	2.40	221.8	100.0	0	116
Cl-	0.13	0.00	6.10	138.0	98.9	13	115
K+	0.04	0.01	0.36	39.2	96.6	25	112
Mg++	0.037	0.005	0.448	37.8	100.0	4	116
NH4+	0.51	0.02	4.31	526.0	100.0	0	116
NO3-	0.49	0.07	3.19	505.3	100.0	0	116
Na+	0.10	0.01	4.21	105.2	100.0	11	116
Precip	-	0.0	35.9	1034.8	69.0	137	253
SO4--	0.29	0.02	2.19	305.0	100.0	0	116
SO4-- corr	0.28	0.01	2.17	289.7	100.0	0	116
cond	12.77	3.00	62.00	13216.6	100.0	0	116
pH	4.88	3.99	7.04	13682.6	100.0	0	116

BY0004R Vysokoe Belarus

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	1.84	0.40	8.60	1168.9	68.2	0	56
Cl-	4.77	0.56	40.87	3020.8	59.0	0	36
K+	10.86	0.17	340.00	6877.0	68.2	0	56
Mg++	0.368	0.040	2.280	233.1	68.2	0	56
NH4+	1.01	0.02	6.74	642.4	97.3	0	133
NO3-	0.40	0.01	1.48	253.0	86.4	0	83
Na+	0.81	0.06	5.90	516.0	68.2	0	56
Precip	-	0.0	48.3	633.5	98.8	220	362
SO4--	1.79	0.15	7.22	1133.7	85.8	0	98
SO4-- corr	1.49	-0.36	5.12	946.3	72.7	0	61
cond	57.05	9.00	170.00	36137.0	80.7	0	68
pH	5.92	4.20	8.86	760.1	98.5	0	147

CH0002R Payerne Switzerland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.30	0.03	3.81	265.0	97.7	20	105
Cl-	0.18	0.02	7.03	154.8	97.7	0	105
K+	0.05	0.01	5.42	46.2	97.7	15	105
Mg++	0.030	0.001	0.419	26.1	97.7	2	105
NH4+	0.47	0.00	10.54	412.3	97.7	0	106
NO3-	0.30	0.00	3.63	260.6	97.7	0	106
Na+	0.11	0.01	3.86	97.5	97.7	8	105
Precip	-	0.0	40.4	867.6	100.0	217	366
SO4--	0.29	0.00	2.12	249.4	97.7	0	106
SO4-- corr	0.28	0.02	2.10	240.2	97.7	0	105
cond	10.29	2.13	126.00	8923.1	99.6	0	130
pH	5.32	3.99	7.68	4163.8	99.6	0	130

CH0004R Chaumont Switzerland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.21	0.03	0.99	235.7	99.9	8	48
Cl-	0.21	0.04	1.31	229.8	99.9	0	48
K+	0.04	0.01	0.23	38.3	99.9	6	48
Mg++	0.027	0.004	0.129	29.4	99.9	0	48
NH4+	0.29	0.07	1.25	320.7	99.9	0	48
NO3-	0.24	0.06	1.13	260.3	99.9	0	48
Na+	0.12	0.01	0.72	133.7	99.9	1	48
Precip	-	0.0	104.6	1098.6	100.0	4	53
SO4--	0.24	0.07	0.86	266.9	99.9	0	48
SO4-- corr	0.23	0.06	0.86	255.2	99.9	0	48
cond	8.46	3.87	30.39	9295.4	100.0	0	49
pH	5.20	4.47	6.39	6894.6	100.0	0	49

CH0005R Rigi Switzerland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.22	0.03	4.30	233.9	97.5	24	122
Cl-	0.11	0.01	1.85	122.8	97.5	0	122
K+	0.04	0.01	0.76	44.7	97.5	13	122
Mg++	0.021	0.001	0.220	22.5	97.5	4	122
NH4+	0.52	0.02	3.13	558.9	97.5	0	122
NO3-	0.39	0.03	2.52	418.3	97.5	0	122
Na+	0.08	0.01	1.16	88.3	97.5	16	122
Precip	-	0.0	64.0	1079.0	98.9	204	362
SO4--	0.33	0.02	1.42	353.7	97.5	0	122
SO4-- corr	0.32	0.02	1.39	346.1	97.5	0	122
cond	12.54	2.12	84.47	13526.2	98.4	0	138
pH	4.98	4.07	7.26	11392.5	98.4	0	138

CZ0001R Svratouch Czech Republic

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Cl-	0.21	0.01	1.26	184.7	92.0	1	46
K+	0.10	0.00	0.76	88.1	94.2	3	48
Mg++	0.032	0.001	0.136	28.0	94.6	0	49
NH4+	0.60	0.01	4.60	522.2	99.9	2	50
NO3-	0.45	0.00	1.93	389.8	92.0	2	46
Na+	0.15	0.01	0.96	134.6	94.2	0	48
Precip	-	0.1	75.4	865.6	100.0	0	53
SO4--	0.50	0.01	2.09	436.3	92.0	1	46
SO4-- corr	0.49	0.00	2.05	422.4	89.6	1	45
cond	19.05	6.13	62.80	16490.0	98.3	0	48
pH	4.68	4.00	6.94	18119.7	97.0	0	48

CZ0003R Kosetice Czech Republic

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.21	0.02	1.35	131.1	95.9	5	134
Cl-	0.32	0.03	3.50	203.7	95.9	0	135
K+	0.14	0.00	5.61	89.9	96.0	4	135
Mg++	0.037	0.001	0.229	23.7	96.0	0	135
NH4+	0.68	0.01	9.94	428.7	96.5	2	142
NO3-	0.62	0.00	3.72	393.3	95.9	1	135
Na+	0.17	0.00	2.04	110.1	96.0	1	135
Precip	-	0.0	49.3	635.1	99.9	188	366
SO4--	0.62	0.01	4.34	391.1	95.9	1	135
SO4-- corr	0.60	0.00	4.28	380.7	95.9	1	135
cond	17.50	2.45	99.20	11116.8	95.6	0	137
pH	4.78	3.77	7.23	10492.0	95.8	0	140

DE0001R Westerland Germany

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.39	0.10	1.40	270.8	99.7	0	48
Cl-	11.89	0.50	36.80	8180.7	99.7	0	48
K+	0.25	0.01	0.75	171.6	99.7	4	48
Mg++	0.847	0.077	2.404	582.8	99.7	0	48
NH4+	0.42	0.01	4.11	286.8	99.7	2	48
NO3-	0.45	0.13	3.16	310.4	99.7	0	48
Na+	7.17	0.42	22.40	4931.6	99.7	0	48
Precip	-	0.0	39.3	688.0	100.0	3	53
SO4--	0.97	0.26	2.46	665.3	99.7	0	48
SO4-- corr	0.37	0.04	2.21	255.9	99.7	0	48
cond	48.73	10.00	153.00	33528.7	99.6	0	47
pH	4.75	4.11	5.67	12085.1	99.7	0	48

DE0002R Langenbrugge Germany

January 2004 - December 2004 Bulk sampler

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.23	0.00	7.30	122.2	94.2	0	125
Cl-	0.81	0.00	14.40	420.4	98.6	0	130
K+	0.07	0.01	1.37	35.6	98.6	2	130
Mg++	0.074	0.005	1.121	38.7	98.6	1	130
NH4+	0.69	0.01	5.71	358.6	98.6	0	130
NO3-	0.58	0.09	4.91	300.3	98.6	0	130
Na+	0.47	0.01	9.11	245.4	98.6	3	130
Precip	-	0.0	17.3	519.6	99.9	163	366
SO4--	0.53	0.13	4.16	276.9	98.6	0	130
cond	18.45	-5.00	102.00	9585.2	98.6	1	131
pH	4.78	4.08	6.64	8559.8	98.8	0	126

DE0003R Schauinsland Germany

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.21	0.00	1.40	298.6	95.3	4	45
Cl-	0.27	0.10	1.90	375.4	95.3	0	45
K+	0.03	0.01	0.32	46.2	95.3	23	45
Mg++	0.032	0.005	0.148	45.7	95.3	12	45
NH4+	0.31	0.07	1.72	433.6	95.3	0	45
NO3-	0.30	0.11	3.17	430.4	95.3	0	45
Na+	0.17	0.01	0.92	237.2	95.3	4	45
Precip	-	0.0	135.3	1418.3	100.0	4	53
SO4--	0.28	0.10	1.02	397.8	95.3	0	45
SO4-- corr	0.27	0.09	0.99	377.4	95.3	0	45
cond	9.20	5.00	70.00	13051.9	95.3	0	45
pH	4.96	3.75	6.31	15513.0	95.3	0	45

DE0004R Deuselbach Germany

January – 17 February, 13 July-December 2004 Wet only sampler

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.14	0.00	0.60	62.7	99.2	3	26
Cl-	0.53	0.10	4.60	238.0	99.2	0	26
K+	0.02	0.00	0.11	8.0	99.2	17	26
Mg++	0.048	0.009	0.407	21.6	99.2	4	26
NH4+	0.23	0.05	1.36	101.9	99.2	0	26
NO3-	0.26	0.10	1.40	118.0	99.2	0	26
Na+	0.32	0.03	2.74	142.8	99.2	1	26
Precip	-	0.0	61.9	451.5	57.9	1	31
SO4--	0.33	0.17	1.01	150.4	99.2	0	26
SO4-- corr	0.31	0.16	1.00	138.1	99.2	0	26
cond	10.11	6.00	36.00	4565.4	99.2	0	26
pH	4.82	4.22	5.79	6866.5	99.2	0	26

DE0005R Brotjacklriegel Germany

January 2004 – 15 June 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.41	0.20	1.70	150.3	100.0	0	23
Cl-	0.26	0.00	2.40	95.8	100.0	2	23
K+	0.04	0.01	0.20	14.1	100.0	7	23
Mg++	0.061	0.011	0.341	22.5	100.0	2	23
NH4+	0.60	0.25	4.78	222.6	100.0	0	23
NO3-	0.55	0.28	5.12	202.2	100.0	0	23
Na+	0.20	0.01	1.59	73.2	100.0	2	23
Precip	-	0.0	62.8	370.7	45.4	1	24
SO4--	0.45	0.17	2.69	165.9	100.0	0	23
SO4-- corr	0.43	0.16	2.58	158.6	100.0	0	23
cond	11.48	7.00	77.00	4256.1	100.0	0	23
pH	5.19	4.24	6.12	2411.3	100.0	0	23

DE0007R Neuglobsow Germany

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.27	0.10	2.40	112.3	99.4	0	38
Cl-	0.66	0.10	4.60	273.7	99.4	0	38
K+	0.08	0.01	0.45	32.9	99.4	10	38
Mg++	0.068	0.009	0.343	27.9	99.4	3	38
NH4+	0.61	0.20	4.85	251.3	99.4	0	38
NO3-	0.54	0.18	3.05	223.7	99.4	0	38
Na+	0.39	0.02	2.53	160.0	99.4	1	38
Precip	-	0.0	39.3	413.2	88.5	6	47
SO4--	0.54	0.23	2.78	221.8	99.4	0	38
SO4-- corr	0.50	0.14	2.71	207.3	99.4	0	38
cond	14.41	7.00	65.00	5953.1	99.4	0	38
pH	4.74	4.22	6.27	7504.7	99.4	0	38

DE0008R Schmucke Germany

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.16	0.00	0.90	203.6	98.6	2	47
Cl-	0.42	0.00	3.10	530.0	98.6	1	47
K+	0.04	0.01	1.05	45.9	98.6	22	47
Mg++	0.041	0.005	0.204	52.3	98.6	10	47
NH4+	0.45	0.12	4.77	562.2	98.6	0	47
NO3-	0.48	0.21	4.14	606.9	98.6	0	47
Na+	0.26	0.01	1.96	331.0	98.6	4	47
Precip	-	0.0	139.6	1264.4	100.0	4	53
SO4--	0.42	0.14	2.80	527.9	98.6	0	47
SO4-- corr	0.40	0.12	2.76	499.7	98.6	0	47
cond	13.06	6.00	76.00	16514.9	98.6	0	47
pH	4.71	4.03	5.94	24826.2	98.6	0	47

DE0009R Zingst Germany

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.27	0.10	1.80	154.4	99.3	0	47
Cl-	1.82	0.20	13.10	1061.0	99.3	0	47
K+	0.12	0.01	1.13	68.8	99.3	15	47
Mg++	0.154	0.032	1.225	89.6	99.3	0	47
NH4+	0.55	0.00	2.47	317.1	99.3	2	47
NO3-	0.51	0.01	2.17	293.9	99.3	1	47
Na+	1.08	0.12	8.66	628.7	99.3	0	47
Precip	-	0.0	46.1	581.6	100.0	2	53
SO4--	0.55	0.23	2.07	321.7	99.3	0	47
SO4-- corr	0.46	0.12	2.01	268.7	99.3	0	47
cond	18.11	8.00	78.00	10534.5	99.3	0	47
pH	4.75	4.17	6.92	10312.5	99.3	0	47

DK0005R Keldsnor Denmark

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.25	0.07	0.68	155.9	100.0	0	25
Cl-	2.59	0.31	11.46	1605.3	100.0	0	25
K+	0.24	0.07	0.94	148.3	100.0	0	25
Mg++	0.173	0.017	0.676	107.3	100.0	0	25
NH4+	0.56	0.22	1.64	345.7	97.8	0	24
NO3-	0.47	0.15	1.27	294.3	100.0	0	25
Na+	1.53	0.20	6.49	946.7	97.8	0	24
Precip	-	3.4	56.4	619.1	99.5	0	25
SO4--	0.53	0.28	1.19	326.4	100.0	0	25
SO4-- corr	0.40	0.19	1.05	248.6	100.0	0	25
cond	22.48	11.89	57.30	13913.8	89.7	0	23
pH	5.02	4.53	6.47	5858.6	100.0	0	25

DK0008R Anholt Denmark

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.16	0.04	0.45	97.0	100.0	0	24
Cl-	4.55	0.26	13.62	2719.0	100.0	0	24
K+	0.12	0.04	0.36	72.4	100.0	0	24
Mg++	0.278	0.028	0.903	166.3	100.0	0	24
NH4+	0.42	0.14	1.25	248.2	100.0	0	24
NO3-	0.47	0.18	0.90	279.3	100.0	0	24
Na+	2.64	0.16	7.24	1576.4	100.0	0	24
Precip	-	2.1	87.7	597.0	99.8	0	24
SO4--	0.59	0.27	1.10	350.4	100.0	0	24
SO4-- corr	0.37	0.20	1.00	220.1	100.0	0	24
cond	32.78	11.94	68.20	19570.2	90.8	0	22
pH	4.61	4.28	5.42	14734.1	100.0	0	24

DK0022R Sepstrup Sande Denmark

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.11	0.03	0.38	102.9	100.0	0	22
Cl-	3.50	0.19	12.15	3193.7	100.0	0	22
K+	0.10	0.03	0.56	91.9	100.0	0	22
Mg++	0.212	0.008	0.760	192.9	100.0	0	22
NH4+	0.43	0.23	1.52	396.1	100.0	0	22
NO3-	0.39	0.18	1.09	353.3	100.0	0	22
Na+	2.20	0.08	6.74	2005.7	100.0	0	22
Precip	-	0.0	96.0	911.3	99.8	1	24
SO4--	0.50	0.26	1.28	456.4	100.0	0	22
SO4-- corr	0.32	0.07	1.11	290.1	100.0	0	22
cond	25.97	12.21	61.90	23666.4	90.6	0	20
pH	4.82	4.10	6.47	13715.3	100.0	0	22

EE0009R Lahemaa Estonia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.15	0.00	0.90	114.6	99.0	4	45
Cl-	0.35	0.20	0.90	270.9	99.4	0	46
K+	0.08	0.01	0.78	63.1	99.0	2	45
Mg++	0.031	0.005	0.121	23.5	99.0	0	45
NH4+	0.08	0.01	1.50	63.2	99.0	3	44
NO3-	0.13	0.01	0.44	101.6	99.4	5	46
Na+	0.17	0.02	0.68	130.2	99.0	0	45
Precip	-	0.4	79.8	768.0	98.8	2	52
SO4--	0.25	0.13	1.22	192.5	99.4	0	46
SO4-- corr	0.23	0.11	1.21	178.3	99.4	0	46
cond	8.68	4.00	30.00	6670.0	99.9	0	49
pH	4.69	4.08	6.66	15593.7	99.9	0	49

EE0011R Vilsandi Estonia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.37	0.10	3.70	234.3	100.0	0	36
Cl-	1.53	0.30	5.20	963.5	100.0	0	36
K+	0.19	0.01	1.30	118.6	100.0	0	36
Mg++	0.153	0.039	0.490	96.6	100.0	0	36
NH4+	0.47	0.02	5.60	294.8	100.0	0	36
NO3-	0.21	0.01	0.73	133.6	100.0	6	36
Na+	1.05	0.15	3.50	662.9	100.0	0	36
Precip	-	0.0	59.3	629.3	98.8	16	52
SO4--	0.51	0.10	2.69	318.3	100.0	0	36
SO4-- corr	0.42	0.07	2.46	262.5	100.0	0	36
cond	18.21	4.00	85.00	11457.0	100.0	0	36
pH	4.71	4.30	6.52	12235.5	100.0	0	36

ES0008R Niembro Spain

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.97	0.17	13.50	642.6	93.8	0	144
Cl-	9.60	0.90	50.88	6357.1	94.8	0	152
H+	44.12	0.11	794.33	29222.4	94.8	0	156
K+	0.37	0.07	10.20	245.1	93.8	0	144
Mg++	0.782	0.070	4.400	517.9	93.8	0	144
NH4+	0.53	0.04	8.52	352.2	94.7	10	150
NO3-	1.54	0.04	23.48	1019.7	94.8	2	152
Na+	6.78	0.57	45.50	4492.0	93.8	0	144
Precip	-	0.0	29.8	662.4	99.5	201	364
SO4--	1.30	0.38	7.60	863.2	94.8	0	152
SO4-- corr	0.78	-1.02	5.99	518.4	94.8	0	152
cond	66.64	9.30	184.00	44141.6	90.3	0	137
pH	4.36	3.10	6.97	29222.2	94.8	0	156

ES0009R Campisabalos Spain

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	1.21	0.22	14.50	574.4	89.7	0	79
Cl-	1.00	0.16	52.50	476.2	90.3	16	86
K+	0.10	0.02	1.00	47.1	89.7	4	79
Mg++	0.073	0.020	0.440	34.7	89.7	0	79
NH4+	0.20	0.04	2.15	92.9	89.9	17	83
NO3-	0.33	0.04	14.22	155.4	90.3	4	86
Na+	0.29	0.05	3.20	135.5	89.7	5	79
Precip	-	0.0	27.4	474.2	99.7	269	365
SO4--	0.42	0.09	1.85	197.2	90.3	0	86
SO4-- corr	0.39	0.07	1.79	183.4	90.3	0	86
cond	11.29	2.50	67.50	5355.1	90.9	4	89
pH	6.19	3.26	7.43	308.0	90.9	0	91

FI0004R Ahtari Finland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.09	0.02	0.84	56.2	100.0	0	49
Cl-	0.20	0.04	2.28	126.8	100.0	0	49
K+	0.06	0.01	0.58	36.3	100.0	0	49
Mg++	0.028	0.008	0.115	17.1	100.0	0	49
NH4+	0.17	0.01	1.47	103.9	100.0	0	49
NO3-	0.22	0.10	1.58	137.8	100.0	0	49
Na+	0.14	0.03	2.12	85.3	100.0	0	49
Precip	-	0.0	42.4	620.6	100.0	2	53
SO4--	0.24	0.07	2.36	150.9	100.0	0	49
SO4-- corr	0.23	0.07	2.28	143.6	100.0	0	49
cond	11.15	6.00	69.00	6917.1	100.0	0	49
pH	4.75	4.02	6.81	10903.1	100.0	0	49

FI0009R Uto Finland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.16	0.04	0.85	45.0	98.4	0	36
Cl-	2.37	0.18	26.73	682.8	98.4	0	36
K+	0.10	0.03	0.87	28.5	98.4	0	36
Mg++	0.181	0.022	1.483	52.0	98.4	0	36
NH4+	0.27	0.07	1.86	77.3	98.4	0	36
NO3-	0.44	0.11	3.77	127.6	98.4	0	36
Na+	1.47	0.12	12.46	422.9	98.4	0	36
Precip	-	0.0	43.0	288.3	98.6	11	52
Precip off	-	0.00	51.50	582.5	99.9	201	366
SO4--	0.49	0.16	5.54	140.1	98.4	0	36
SO4-- corr	0.36	0.08	4.50	105.3	98.4	0	36
cond	24.93	8.00	227.00	7186.5	98.4	0	36
pH	4.60	3.52	5.09	7310.1	98.4	0	36

FI0017R Virolahti II Finland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.20	0.05	3.56	118.8	88.5	0	46
Cl-	0.45	0.04	3.48	259.0	88.5	0	46
K+	0.19	0.02	2.50	108.6	88.5	0	46
Mg++	0.052	0.009	0.358	30.2	88.5	0	46
NH4+	0.26	0.03	1.76	149.4	88.5	0	46
NO3-	0.34	0.09	1.37	198.1	88.5	0	46
Na+	0.26	0.03	1.64	151.8	88.5	0	46
Precip	-	0.0	65.2	579.8	98.8	1	52
SO4--	0.46	0.20	2.45	268.4	88.5	0	46
SO4-- corr	0.44	0.17	2.44	254.7	88.5	0	46
cond	16.59	7.00	48.00	9617.5	88.5	0	46
pH	4.65	4.12	6.76	12971.4	88.5	0	46

FI0022R Oulanka Finland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.04	0.01	0.84	21.5	100.0	0	49
Cl-	0.13	0.03	1.10	64.0	100.0	0	49
K+	0.05	0.01	0.79	26.4	100.0	0	49
Mg++	0.015	0.005	0.101	7.5	100.0	0	49
NH4+	0.07	0.01	1.22	35.9	100.0	0	49
NO3-	0.15	0.05	0.92	73.0	100.0	0	49
Na+	0.09	0.02	0.67	45.1	100.0	0	49
Precip	-	0.0	36.8	498.5	98.8	2	52
SO4--	0.21	0.06	1.11	103.5	100.0	0	49
SO4-- corr	0.20	0.05	1.08	99.8	100.0	0	49
cond	9.96	4.00	28.00	4965.0	100.0	0	49
pH	4.72	4.26	5.24	9538.9	100.0	0	49

FR0008R Donon France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.15	0.01	2.83	227.3	99.1	5	185
Cl-	0.42	0.03	6.41	613.4	99.1	9	185
K+	0.03	0.01	0.36	49.3	99.1	45	185
Mg++	0.033	0.010	0.460	48.7	99.1	82	185
NH4+	0.34	0.01	2.76	493.8	99.1	3	185
NO3-	0.34	0.03	3.41	503.7	99.1	0	185
Na+	0.24	0.01	3.68	356.5	99.1	14	185
Precip	-	0.1	66.8	1474.7	99.9	147	366
SO4--	0.32	0.01	1.73	469.9	99.1	1	185
SO4-- corr	0.30	0.00	1.70	439.7	99.1	1	185
cond	12.53	2.10	84.60	18483.8	99.2	0	188
pH	4.83	4.03	7.00	21651.2	99.2	0	188

FR0009R Revin France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.18	0.01	8.58	187.9	98.0	1	156
Cl-	0.83	0.03	15.16	880.2	98.0	3	156
K+	0.05	0.01	0.77	50.2	98.0	24	156
Mg++	0.060	0.010	1.070	63.5	98.0	42	156
NH4+	0.46	0.07	4.64	491.1	98.0	0	156
NO3-	0.36	0.07	3.06	384.7	98.0	0	156
Na+	0.47	0.01	9.53	500.4	98.0	8	156
Precip	-	0.1	35.8	1064.2	99.9	174	366
SO4--	0.40	0.07	2.76	430.3	98.0	0	156
SO4-- corr	0.36	0.07	2.58	388.4	98.0	0	156
cond	14.76	3.10	85.60	15706.7	98.1	0	157
pH	4.86	3.93	6.73	14643.4	98.1	0	157

FR0010R Morvan France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.35	0.01	18.95	375.1	96.6	2	148
Cl-	0.73	0.03	8.08	775.1	96.6	1	148
K+	0.16	0.01	4.30	174.0	96.6	13	148
Mg++	0.063	0.010	0.790	67.1	96.6	34	148
NH4+	0.35	0.01	3.81	369.7	96.6	2	148
NO3-	0.31	0.02	2.79	325.9	96.6	0	148
Na+	0.46	0.01	5.64	487.7	96.6	4	148
Precip	-	0.1	34.6	1060.3	99.9	164	366
SO4--	0.36	0.03	2.48	385.7	96.6	0	148
SO4-- corr	0.33	0.02	2.23	344.2	96.6	0	148
cond	12.49	2.30	89.10	13240.2	96.7	0	150
pH	5.11	4.12	7.56	8327.1	96.7	0	150

FR0012R Iraty France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.37	0.01	6.35	508.1	89.3	1	147
Cl-	0.96	0.03	5.08	1316.8	89.3	6	147
K+	0.04	0.01	0.40	62.1	89.3	32	147
Mg++	0.085	0.010	0.410	116.3	89.3	30	147
NH4+	0.32	0.01	4.63	444.7	89.3	8	147
NO3-	0.25	0.01	3.54	345.1	89.3	1	147
Na+	0.58	0.01	2.95	790.4	89.3	8	147
Precip	-	0.1	65.6	1373.3	99.9	174	366
SO4--	0.43	0.03	5.95	593.2	89.3	0	147
SO4-- corr	0.38	0.03	5.89	527.0	89.3	0	147
cond	13.24	2.20	77.10	18184.1	89.6	0	150
pH	5.06	4.00	6.79	12023.3	89.6	0	150

FR0013R Peyrusse Vieille France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.32	0.01	7.88	260.9	96.0	1	123
Cl-	1.57	0.03	18.44	1263.6	96.0	2	123
K+	0.07	0.01	1.51	55.0	96.0	17	123
Mg++	0.118	0.010	1.270	95.0	96.0	29	123
NH4+	0.35	0.01	3.93	279.0	96.0	2	124
NO3-	0.29	0.03	3.09	234.3	96.0	0	123
Na+	0.93	0.01	10.67	744.8	96.0	4	123
Precip	-	0.1	41.4	804.2	99.9	192	366
SO4--	0.46	0.05	3.54	365.7	96.0	0	123
SO4-- corr	0.38	0.05	3.39	303.7	96.0	0	123
cond	16.72	2.40	80.60	13444.8	96.5	0	129
pH	4.91	4.02	6.79	9854.2	96.5	0	129

FR0014R Montandon France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.23	0.01	3.96	252.5	97.2	1	156
Cl-	0.29	0.03	7.43	308.7	97.2	10	156
K+	0.04	0.01	0.48	46.5	97.2	40	156
Mg++	0.028	0.010	0.530	30.4	97.2	63	156
NH4+	0.36	0.01	4.08	382.9	97.2	2	156
NO3-	0.32	0.01	3.90	345.8	97.2	2	156
Na+	0.17	0.01	4.39	186.8	97.2	18	156
Precip	-	0.1	46.6	1076.5	99.9	166	366
SO4--	0.30	0.02	2.02	318.8	97.2	0	156
SO4-- corr	0.28	0.02	1.99	302.4	97.2	0	156
cond	10.62	2.00	63.90	11435.3	97.3	0	158
pH	4.99	4.15	6.50	10941.7	97.3	0	158

FR0015R La Tardière France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.24	0.05	2.98	196.4	91.1	0	122
Cl-	3.27	0.13	28.97	2718.3	91.1	0	122
K+	0.09	0.01	0.65	74.7	91.1	11	122
Mg++	0.235	0.010	2.070	195.8	91.1	2	122
NH4+	0.41	0.06	2.78	342.0	91.1	0	122
NO3-	0.23	0.01	2.28	188.2	91.1	1	122
Na+	1.87	0.03	16.73	1553.0	91.1	0	122
Precip	-	0.1	45.4	832.1	99.9	199	366
SO4--	0.45	0.07	2.46	377.1	91.1	0	122
SO4-- corr	0.30	-0.07	2.31	247.4	91.1	0	122
cond	20.46	3.40	113.10	17025.7	91.3	0	126
pH	5.18	4.09	6.66	5456.7	91.3	0	126

FR0016R Le Casset France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	1.18	0.01	13.90	727.8	80.8	2	93
Cl-	0.25	0.03	2.12	154.9	80.8	14	93
K+	0.07	0.01	0.94	45.0	80.8	26	93
Mg++	0.061	0.010	0.390	38.0	80.8	34	93
NH4+	0.23	0.01	1.51	141.3	80.8	11	93
NO3-	0.26	0.03	1.90	162.7	80.8	0	93
Na+	0.15	0.01	1.29	91.4	80.8	24	93
Precip	-	0.1	43.5	619.0	99.9	255	366
SO4--	0.39	0.03	3.65	241.8	80.8	0	93
SO4-- corr	0.38	0.02	3.54	232.7	80.8	0	93
cond	11.58	1.90	78.50	7167.5	81.1	0	96
pH	5.38	4.22	7.40	2581.2	81.1	0	96

FR0017R Montfranc France

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.29	0.01	5.59	330.8	90.5	6	142
Cl-	0.75	0.03	8.31	857.1	90.5	7	142
K+	0.04	0.01	0.24	50.0	90.5	33	142
Mg++	0.066	0.010	0.590	75.5	90.5	31	142
NH4+	0.32	0.01	3.55	362.1	90.5	2	142
NO3-	0.28	0.03	4.79	313.2	90.5	0	142
Na+	0.45	0.01	5.23	510.0	90.5	9	142
Precip	-	0.1	38.4	1140.8	99.9	157	366
SO4--	0.37	0.05	2.33	419.5	90.5	0	142
SO4-- corr	0.33	0.04	2.26	377.1	90.5	0	142
cond	12.22	3.00	98.90	13945.3	90.8	0	144
pH	5.01	3.91	6.78	11149.4	90.8	0	144

GB0002R Eskdalemuir United Kingdom

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.11	0.01	2.61	175.6	100.0	11	247
Cl-	2.11	0.00	26.40	3507.1	100.0	4	247
K+	0.10	0.01	4.32	159.0	99.6	16	242
Mg++	0.131	0.005	1.119	218.5	100.0	13	247
NH4+	0.25	0.01	4.62	417.9	99.6	15	242
NO3-	0.21	0.01	4.96	342.7	100.0	3	247
Na+	1.24	0.00	14.90	2061.2	100.0	5	247
Precip	-	0.0	30.3	1663.5	99.9	118	366
SO4--	0.33	0.03	3.25	549.6	100.0	0	247
SO4-- corr	0.23	-0.17	3.23	387.2	100.0	0	247
cond	15.17	5.00	129.00	25228.6	99.9	61	243
pH	4.97	3.74	8.99	17801.4	99.6	0	242

GB0006R Lough Navar United Kingdom

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.26	0.21	0.51	26.1	100.0	0	2
Cl-	10.11	8.90	16.00	1010.1	100.0	0	2
K+	0.20	0.18	0.32	20.4	100.0	0	2
Mg++	0.578	0.552	0.708	57.8	100.0	0	2
NH4+	0.01	0.01	0.03	0.9	100.0	1	2
NO3-	0.01	0.01	0.04	1.1	100.0	1	2
Na+	5.85	5.13	9.39	585.1	100.0	0	2
Precip	-	31.0	102.5	100.0	13.6	0	2
SO4--	0.58	0.53	0.83	58.1	100.0	0	2
cond	44.44	39.00	71.00	4441.4	100.0	0	2
pH	5.29	5.24	5.61	519.1	100.0	0	2

GB0013R Yarner Wood United Kingdom

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.20	0.03	1.54	207.7	100.0	0	22
Cl-	4.22	0.90	15.90	4362.1	100.0	0	22
K+	0.16	0.05	0.43	166.7	81.3	0	20
Mg++	0.279	0.047	0.923	288.5	100.0	0	22
NH4+	0.28	0.01	1.70	290.8	81.3	1	20
NO3-	0.25	0.04	1.60	262.9	100.0	0	22
Na+	2.52	0.51	8.13	2602.9	100.0	0	22
Precip	-	0.8	144.4	1034.1	87.8	0	22
SO4--	0.55	0.08	2.12	569.0	100.0	0	22
SO4-- corr	0.35	-0.12	2.04	359.3	100.0	0	22
cond	25.92	5.00	80.00	26802.4	100.0	1	22
pH	4.86	3.81	6.05	14272.5	81.3	0	20

GB0014R High Muffles United Kingdom

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.25	0.07	1.57	211.0	100.0	0	26
Cl-	2.10	0.30	9.20	1756.6	100.0	0	26
K+	0.12	0.03	0.50	101.9	99.6	0	25
Mg++	0.150	0.054	0.621	125.5	100.0	0	26
NH4+	0.51	0.09	1.56	425.7	99.6	0	25
NO3-	0.44	0.17	1.32	365.6	100.0	0	26
Na+	1.22	0.15	5.35	1021.7	100.0	0	26
Precip	-	2.6	85.2	838.2	99.3	0	26
SO4--	0.61	0.37	2.01	515.6	100.0	0	26
SO4-- corr	0.52	0.26	1.89	432.1	100.0	0	26
cond	22.18	11.00	47.00	18591.7	100.0	0	26
pH	4.76	4.41	6.50	14467.5	99.6	0	25

GB0015R Strathvaich Dam United Kingdom

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.15	0.03	0.88	213.4	100.0	0	27
Cl-	4.93	0.30	14.70	7035.6	100.0	0	27
K+	0.10	0.01	0.31	142.7	100.0	1	27
Mg++	0.314	0.010	0.937	448.5	100.0	0	27
NH4+	0.05	0.01	0.42	65.0	100.0	11	27
NO3-	0.09	0.01	0.44	123.9	100.0	3	27
Na+	2.85	0.01	8.55	4066.6	100.0	1	27
Precip	-	1.9	135.1	1426.6	100.0	0	27
SO4--	0.34	0.06	0.80	479.7	100.0	0	27
SO4-- corr	0.11	-0.26	0.55	154.1	100.0	0	27
cond	23.08	5.00	56.00	32923.8	100.0	2	27
pH	5.01	4.43	5.58	13933.2	100.0	0	27

HR0002R Puntijarka Croatia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	2.32	0.38	17.40	2972.0	88.3	0	116
Cl-	0.52	0.10	5.09	662.8	88.8	0	113
K+	0.46	0.02	10.12	590.3	89.2	0	117
Mg++	0.380	0.069	9.151	486.7	88.3	0	116
NH4+	0.61	0.02	4.04	780.1	86.9	0	111
NO3-	0.35	0.04	4.36	454.5	90.8	0	119
Na+	0.51	0.06	6.52	648.7	88.7	0	115
Precip off	-	0.10	52.50	1279.5	44.0	0	161
SO4--	0.51	0.06	2.93	655.7	90.8	0	119
cond	15.15	3.00	270.00	19388.6	91.3	0	126
pH	5.47	4.42	7.20	4292.3	90.4	0	125

HR0004R Zavizan Croatia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	2.39	0.09	23.37	5186.0	97.4	0	138
Cl-	1.13	0.06	12.06	2452.4	99.6	0	140
K+	0.14	0.01	3.08	292.9	95.9	0	136
Mg++	0.198	0.000	6.296	427.9	95.0	0	135
NH4+	0.34	0.00	1.95	745.1	97.1	0	134
NO3-	0.35	0.03	2.89	752.4	98.4	0	141
Na+	0.61	0.04	8.55	1323.1	95.5	0	133
Precip off	-	0.30	66.10	2166.4	39.6	0	145
SO4--	0.48	0.04	3.60	1047.0	98.4	0	141
cond	15.83	4.00	102.00	34299.1	100.0	0	145
pH	5.42	4.48	8.07	8304.8	100.0	0	145

HU0002R K-Puszta Hungary

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.88	0.19	8.96	395.2	100.0	0	63
Cl-	0.55	0.20	3.83	246.8	100.0	0	63
K+	0.19	0.03	1.86	83.6	92.0	1	56
Mg++	0.210	0.040	2.500	94.7	100.0	0	63
NH4+	0.28	0.01	1.61	125.5	92.0	14	56
NO3-	0.37	0.01	1.88	167.5	100.0	3	63
Na+	1.07	0.47	11.25	481.9	100.0	0	63
Precip	-	0.6	33.5	449.9	99.9	303	366
Precip off	-	0.00	50.00	680.7	99.9	304	366
SO4--	0.84	0.30	3.44	377.7	100.0	0	63
SO4-- corr	0.75	0.21	3.29	339.3	100.0	0	63
cond	17.46	6.40	88.20	7857.2	100.0	0	63
pH	5.55	4.15	7.17	1279.9	92.0	0	56

IE0001R Valentia Obs. Ireland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.51	0.03	25.55	768.6	98.6	1	189
Cl-	19.13	0.49	1145.20	28798.4	98.6	0	188
K+	0.80	0.03	128.86	1196.9	98.6	1	188
Mg++	1.318	0.025	83.784	1983.5	98.6	2	188
NH4+	0.16	0.02	9.00	244.1	98.6	41	189
NO3-	0.12	0.01	2.05	184.5	98.6	4	189
Na+	10.54	0.16	670.30	15862.1	98.6	0	189
Precip	-	0.0	92.0	1505.4	99.9	123	366
Precip off	-	0.00	33.50	1399.7	99.9	103	366
SO4--	1.07	0.09	53.31	1609.8	98.6	0	189
SO4-- corr	0.19	-2.79	3.43	287.6	98.6	0	189
cond	76.58	4.57	3960.00	115284.7	98.6	0	189
pH	5.18	4.04	6.99	9960.8	98.6	0	189

IS0002R Irafoss Iceland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Na+	3.44	0.10	137.00	9356.7	100.0	0	182
Precip	-	0.0	252.8	2718.9	99.9	184	366
SO4--	0.45	0.05	11.80	1209.3	100.0	2	182
pH	5.49	4.50	7.00	8813.3	100.0	0	182

IS0090R Reykjavik Iceland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.46	0.05	2.05	443.7	99.7	0	49
Cl-	15.58	0.26	87.87	15121.8	99.7	0	49
K+	0.32	-0.01	1.91	308.4	99.7	0	49
Mg++	1.049	0.030	6.090	1018.6	99.7	0	49
NH4+	0.29	-0.01	1.67	286.7	99.7	0	49
NO3-	0.13	0.02	1.32	127.0	99.7	0	49
Na+	8.72	0.16	48.19	8465.1	99.7	0	49
Precip	-	0.0	69.1	970.8	100.0	6	59
Precip off	-	0.00	53.00	939.8	100.0	3	59
SO4--	0.96	0.12	4.42	933.7	99.7	0	49
cond	62.12	5.40	329.00	60303.5	99.9	0	50
pH	5.39	4.52	6.57	3991.5	99.9	0	49

IS0091R Storhofdi Iceland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	5.39	0.12	48.28	8659.8	100.0	0	56
Cl-	186.14	4.29	1755.00	299143.6	100.0	0	56
K+	4.06	0.01	33.85	6520.6	100.0	1	56
Mg++	16.618	0.290	144.000	26706.9	100.0	0	56
NH4+	0.08	0.01	7.05	135.5	100.0	24	56
NO3-	0.27	0.01	6.62	429.3	100.0	3	56
Na+	136.65	2.32	1200.00	219607.2	100.0	0	56
Precip	-	0.0	94.6	1607.1	100.0	2	59
Precip off	-	0.00	110.00	1817.7	100.0	2	59
SO4--	8.43	0.35	71.19	13547.7	100.0	0	56
SO4-- corr	-1.61	-25.90	22.19	-2594.3	100.0	0	56
cond	560.19	12.70	4000.00	900285.9	99.9	0	54
pH	5.52	4.79	6.78	4870.4	99.9	0	53

IT0001R Montelibretti Italy

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	1.86	0.36	22.78	1745.5	100.0	0	63
Cl-	4.71	0.16	35.80	4414.9	100.0	0	63
K+	0.66	0.00	4.75	615.5	100.0	0	63
Mg++	0.405	0.010	2.630	378.9	100.0	0	63
NH4+	0.42	0.00	2.46	392.6	100.0	0	63
NO3-	4.29	0.00	23.42	4021.3	100.0	0	63
Na+	2.70	0.08	16.95	2525.7	100.0	0	63
Precip	-	0.3	84.1	936.3	100.0	0	63
SO4--	2.32	0.15	12.86	2168.2	100.0	0	63
SO4-- corr	2.08	-0.03	11.68	1945.3	100.0	0	63
cond	33.22	8.81	162.50	31103.2	99.4	0	62
pH	5.65	5.00	7.74	2088.7	100.0	0	63

IT0004R Ispra Italy

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.40	0.04	5.18	568.4	99.4	0	80
Cl-	0.34	0.07	4.72	487.8	99.4	0	80
K+	0.11	0.02	2.84	158.4	84.6	0	74
Mg++	0.042	0.006	0.550	60.0	99.4	0	80
NH4+	0.93	0.05	7.48	1338.1	99.4	0	80
NO3-	0.63	0.09	7.95	909.4	99.4	0	80
Na+	0.21	0.03	3.50	306.7	99.4	0	80
Precip	-	0.0	78.3	1437.0	99.9	286	366
SO4--	0.52	0.10	4.75	744.1	99.4	0	80
SO4-- corr	0.50	0.07	4.63	715.8	99.4	0	80
cond	17.96	4.79	192.52	25814.3	99.8	0	76
pH	4.86	3.79	6.83	19811.9	100.0	0	80

LT0015R Preila Lithuania

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.39	0.00	3.48	184.6	100.0	0	115
Cl-	4.48	0.12	69.40	2106.3	100.0	0	115
H+	20.00	0.13	239.88	9392.0	100.0	0	115
K+	0.22	0.04	3.20	103.2	100.0	0	115
NH4+	0.49	0.07	4.25	232.0	100.0	0	115
NO3-	0.53	0.13	4.33	249.6	100.0	0	115
Na+	2.59	0.10	50.00	1217.3	100.0	0	115
Precip	-	0.0	32.0	469.7	99.9	251	366
SO4--	0.69	0.11	7.95	325.0	100.0	0	115
cond	33.59	6.40	248.00	15779.7	99.5	0	107
pH	4.70	3.62	6.88	9391.9	100.0	0	115

LV0010R Rucava Latvia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.23	0.03	2.04	150.7	92.8	0	111
Cl-	1.08	0.09	8.61	706.9	92.7	0	109
K+	0.07	0.01	0.57	44.7	92.8	5	111
Mg++	0.104	0.010	0.860	68.0	92.8	1	111
NH4+	0.47	0.04	2.78	306.8	94.2	0	118
NO3-	0.51	0.00	3.48	331.2	92.8	0	110
Na+	0.60	0.03	4.75	391.5	92.8	0	111
Precip	-	0.0	28.6	653.3	99.7	217	365
SO4--	0.50	0.10	2.16	324.1	92.7	0	109
SO4-- corr	0.44	0.07	2.11	287.9	92.7	0	109
cond	20.34	4.70	77.30	13284.9	94.6	0	120
pH	4.73	3.91	6.58	12136.1	94.6	0	120

LV0016R Zoseni Latvia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.34	0.01	2.40	250.5	93.9	1	130
Cl-	0.36	0.02	5.73	264.5	89.9	3	112
K+	0.13	0.01	1.64	93.3	91.6	5	127
Mg++	0.103	0.010	0.610	74.4	94.1	2	131
NH4+	0.43	0.04	2.56	312.1	94.8	0	138
NO3-	0.29	0.04	1.54	208.9	89.9	0	112
Na+	0.41	0.01	3.84	300.7	93.8	2	129
Precip	-	0.0	31.1	725.2	100.0	168	366
SO4--	0.33	0.06	1.73	236.8	89.9	0	112
SO4-- corr	0.29	-0.21	1.64	212.5	89.9	0	112
cond	12.85	3.00	52.40	9318.4	96.9	0	150
pH	5.39	4.21	7.67	2974.3	53.4	0	152

NO0001R Birkenes Norway

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.12	0.01	3.67	208.3	99.0	0	169
Cl-	1.77	0.04	20.17	3014.9	99.7	0	175
K+	0.06	0.01	1.06	108.0	99.7	13	175
Mg++	0.137	0.005	1.385	232.3	99.7	1	175
NH4+	0.33	0.01	10.41	567.2	99.7	7	175
NO3-	0.36	0.01	6.49	617.4	99.7	4	175
Na+	1.08	0.03	12.60	1843.2	99.7	0	175
Precip	-	0.0	73.6	1700.5	99.9	164	366
SO4--	0.45	0.01	4.31	767.6	99.7	1	175
SO4-- corr	0.36	-0.02	4.27	614.6	99.7	1	175
cond	20.62	2.70	126.70	35071.0	99.1	0	156
pH	4.69	3.86	6.75	34947.9	98.2	0	146

NO0008R Skreaadalen Norway

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.14	0.01	4.15	364.6	98.2	0	192
Cl-	1.99	0.06	22.21	5045.9	98.2	0	192
K+	0.13	0.01	1.31	329.4	98.2	2	191
Mg++	0.148	0.005	1.493	373.7	98.2	8	192
NH4+	0.21	0.01	6.24	528.1	98.2	3	191
NO3-	0.19	0.01	3.43	486.6	98.2	2	192
Na+	1.18	0.04	11.90	2987.6	98.2	0	192
Precip	-	0.0	78.8	2531.2	97.5	152	357
SO4--	0.26	0.02	2.24	646.1	98.2	0	192
SO4-- corr	0.16	-0.07	2.11	400.8	98.2	0	192
cond	14.54	2.40	105.20	36790.3	97.5	0	177
pH	5.07	3.96	6.68	21648.3	97.8	0	174

NO0015R Tustervatn Norway

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.20	0.02	1.11	280.2	96.5	0	193
Cl-	3.05	0.02	34.86	4358.0	99.4	0	202
K+	0.15	0.01	1.27	210.1	98.9	2	197
Mg++	0.234	0.005	2.521	334.3	99.4	13	202
NH4+	0.17	0.01	3.04	243.0	98.9	2	197
NO3-	0.07	0.01	0.91	97.1	99.4	13	202
Na+	1.81	0.02	21.13	2592.2	99.4	0	202
Precip	-	0.0	41.8	1428.0	99.9	125	366
SO4--	0.19	0.01	1.89	277.2	99.4	1	202
SO4-- corr	0.04	-0.20	1.83	62.2	99.4	1	202
cond	15.62	2.20	130.30	22304.0	97.3	0	168
pH	5.50	4.55	6.70	4546.4	93.8	0	155

NO0039R Kaarvatn Norway

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.11	0.02	1.51	213.5	98.1	0	167
Cl-	2.12	0.03	29.95	4240.0	99.5	0	168
K+	0.09	0.01	0.91	169.6	97.8	2	165
Mg++	0.158	0.005	2.158	316.0	99.5	5	168
NH4+	0.07	0.01	2.11	129.5	97.7	19	164
NO3-	0.04	0.01	1.06	74.9	99.5	38	168
Na+	1.22	0.02	18.05	2433.5	99.5	0	168
Precip	-	0.0	98.7	2001.1	99.7	189	365
SO4--	0.16	0.01	2.04	312.3	99.5	1	168
SO4-- corr	0.06	-0.12	1.98	109.6	99.5	1	168
cond	11.48	2.10	106.30	22981.2	99.2	0	159
pH	5.40	4.50	6.52	8001.8	97.3	0	153

NO0055R Karasjok Norway

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.11	0.02	1.18	37.6	96.8	0	122
Cl-	0.61	0.01	11.35	201.5	97.3	2	125
K+	0.25	0.03	2.54	81.6	95.3	0	119
Mg++	0.044	0.005	0.637	14.7	97.3	4	123
NH4+	0.16	0.01	3.97	53.9	95.3	2	119
NO3-	0.13	0.01	2.74	42.9	97.3	3	125
Na+	0.41	0.04	6.95	136.9	97.3	0	123
Precip	-	0.0	16.9	332.0	99.9	208	366
SO4--	0.23	0.01	4.35	76.4	97.3	2	125
SO4-- corr	0.20	0.00	4.24	65.4	97.3	2	125
cond	8.49	3.40	50.60	2819.3	90.6	0	82
pH	5.14	4.49	6.45	2381.4	88.2	0	78

PL0002R Jarczew Poland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.22	0.00	4.90	125.6	98.8	0	163
Cl-	0.43	0.10	6.40	241.4	98.9	0	166
K+	0.08	0.02	2.00	42.9	98.8	0	163
Mg++	0.033	0.006	0.583	18.8	98.8	0	163
NH4+	0.72	0.05	10.44	403.2	98.9	0	166
NO3-	0.49	0.10	8.02	275.6	98.9	0	166
Na+	0.14	0.02	2.96	76.4	98.8	0	163
Precip	-	0.0	20.6	560.8	99.9	176	366
SO4--	0.74	0.09	8.10	417.6	98.9	0	166
SO4-- corr	0.73	0.09	8.03	408.0	98.9	0	166
cond	22.07	4.10	215.00	12378.2	98.9	0	166
pH	4.61	3.65	6.50	13633.1	98.9	0	166

PL0003R Sniezka Poland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.55	0.10	5.30	571.1	98.9	0	211
Cl-	0.68	0.10	3.90	699.8	98.9	0	211
K+	0.27	0.03	1.87	277.2	98.9	0	211
Mg++	0.118	0.020	0.986	122.6	98.9	0	211
NH4+	0.38	0.10	2.53	390.8	98.9	0	211
NO3-	0.80	0.25	5.21	826.5	98.9	0	211
Na+	0.59	0.08	3.96	612.7	98.9	0	211
Precip	-	0.0	31.0	1035.6	99.9	108	366
SO4--	0.76	0.18	2.97	790.1	98.9	0	211
SO4-- corr	0.71	0.17	2.76	739.9	98.9	0	211
cond	25.31	5.50	90.30	26208.1	98.9	0	211
pH	4.55	3.75	6.92	29401.9	98.9	0	211

PL0004R Leba Poland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.14	0.00	5.50	113.0	98.1	0	160
Cl-	1.27	0.10	18.20	1045.5	98.1	0	160
K+	0.07	0.02	2.75	56.8	98.1	0	160
Mg++	0.086	0.004	1.250	71.1	98.1	0	160
NH4+	0.38	0.03	8.70	313.5	98.1	0	160
NO3-	0.40	0.10	7.86	333.1	98.1	0	160
Na+	0.66	0.02	10.73	547.1	98.1	0	160
Precip	-	0.0	42.4	825.4	99.9	177	366
SO4--	0.43	0.11	4.89	357.1	98.1	0	160
SO4-- corr	0.38	0.10	4.78	311.5	98.1	0	160
cond	19.82	5.00	180.30	16359.2	98.1	0	160
pH	4.67	3.57	6.78	17608.5	98.1	0	160

PL0005R Diabla Gora Poland

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.23	0.00	3.20	168.6	98.7	0	160
Cl-	0.66	0.05	13.30	484.4	99.0	2	166
K+	0.13	0.02	1.20	94.2	98.7	0	160
Mg++	0.063	0.009	0.870	45.9	98.7	0	160
NH4+	0.49	0.01	4.13	359.3	99.0	4	166
NO3-	0.43	0.06	3.43	318.6	99.1	0	167
Na+	0.29	0.01	7.64	211.3	98.7	0	160
Precip	-	0.0	35.7	734.4	99.9	178	366
Precip off	-	0.00	34.20	722.8	99.9	178	366
SO4--	0.54	0.07	3.63	397.6	99.1	0	167
SO4-- corr	0.51	0.06	3.61	374.2	99.1	0	167
cond	15.69	3.00	69.00	11518.5	92.1	0	126
pH	4.70	3.50	6.76	14682.1	99.6	0	183

PT0001R Braganca Portugal

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.57	0.10	4.10	261.4	74.3	0	21
Cl-	0.42	0.10	1.50	192.5	74.3	0	21
K+	0.14	0.04	1.04	63.6	74.3	7	21
Mg++	0.085	0.015	0.300	38.6	74.3	7	21
NH4+	0.31	0.01	1.88	142.0	74.3	2	21
NO3-	0.11	0.01	0.47	51.2	74.3	7	21
Na+	0.33	0.01	2.93	149.3	74.3	5	21
Precip off	-	0.00	39.70	455.8	99.6	267	365
SO4--	0.20	0.03	1.13	90.6	74.3	1	21
SO4-- corr	0.17	0.01	1.08	78.7	74.3	1	21
cond	9.79	1.00	41.00	4462.7	74.3	0	21
pH	5.68	5.21	6.56	959.8	74.3	0	21

PT0003R V. Do Castelo Portugal

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.53	0.05	8.30	1176.7	94.4	2	63
Cl-	3.92	0.30	34.50	8746.8	94.4	0	63
K+	0.17	0.04	0.91	375.0	94.4	10	63
Mg++	0.387	0.015	2.410	864.9	94.4	3	63
NH4+	0.05	0.01	1.23	119.9	94.4	19	63
NO3-	0.09	0.01	0.99	193.5	94.4	20	63
Na+	2.45	0.12	21.33	5464.9	94.4	0	63
Precip off	-	0.00	1318.00	2233.0	99.9	231	366
SO4--	0.38	0.03	2.23	836.7	94.4	1	63
SO4-- corr	0.18	-0.05	1.88	393.7	94.4	1	63
cond	18.66	4.00	136.00	41677.0	94.4	0	63
pH	5.29	4.29	6.94	11414.0	94.4	0	63

PT0004R Monte Velho Portugal

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	1.01	0.10	8.60	361.7	87.3	0	20
Cl-	7.02	0.40	27.90	2506.5	89.0	0	21
K+	0.36	0.04	1.98	128.8	89.0	2	21
Mg++	0.593	0.060	2.310	211.8	89.0	0	21
NH4+	0.21	0.01	1.53	76.6	59.7	6	16
NO3-	0.18	0.01	2.12	65.8	89.0	3	21
Na+	4.53	0.20	19.43	1616.7	89.0	0	21
Precip off	-	0.00	36.00	357.0	99.9	331	366
SO4--	0.67	0.23	3.33	237.7	89.0	0	21
SO4-- corr	0.29	0.01	1.73	102.8	89.0	0	21
cond	33.50	9.00	160.00	11958.1	89.0	0	21
pH	5.02	4.62	6.72	3385.3	89.0	0	21

RU0001R Janiskoski Russian Federation

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.21	0.05	0.82	96.2	100.0	0	92
Cl-	1.20	0.07	5.29	541.9	100.0	0	92
H+	14.72	0.26	69.18	6662.3	100.0	0	92
K+	0.42	0.07	1.93	188.4	100.0	0	92
Mg++	0.055	0.020	0.310	24.9	100.0	0	92
NH4+	0.17	0.02	1.37	76.4	100.0	0	92
NO3-	0.11	0.01	1.74	50.3	100.0	0	92
Na+	0.91	0.21	5.66	410.1	100.0	0	92
Precip	-	0.0	27.6	452.6	99.9	276	366
SO4--	0.52	0.02	2.50	236.7	100.0	0	92
SO4-- corr	0.47	-0.10	2.27	212.6	100.0	0	92
cond	13.12	5.40	43.90	5937.5	100.0	0	92
pH	4.83	4.16	6.58	6662.5	100.0	0	92

RU0013R Pinega Russian Federation

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.73	0.27	2.88	100.9	100.0	0	42
Cl-	0.80	0.03	4.65	109.7	100.0	0	42
H+	2.80	0.08	50.12	387.0	99.6	0	40
K+	0.48	0.15	4.06	66.7	100.0	0	42
Mg++	0.165	0.040	0.720	22.8	100.0	0	42
NH4+	0.39	0.05	2.50	53.9	100.0	0	42
NO3-	0.14	0.01	0.90	19.1	100.0	0	42
Na+	0.78	0.16	5.53	107.5	100.0	0	42
Precip	-	0.0	17.9	138.0	99.9	324	366
SO4--	0.72	0.08	3.67	98.9	100.0	0	42
SO4-- corr	0.65	0.04	3.21	89.7	100.0	0	42
cond	18.02	6.00	93.10	2486.7	100.0	0	42
pH	5.55	4.30	7.11	386.9	99.6	0	40

RU0016R Shepeljovo Russian Federation

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.60	0.08	5.97	248.7	100.0	0	76
Cl-	2.34	0.11	50.76	973.9	100.0	0	76
H+	12.93	0.01	93.33	5388.5	99.8	0	75
K+	0.44	0.11	5.25	182.3	100.0	0	76
Mg++	0.206	0.020	8.410	85.7	100.0	0	76
NH4+	0.54	0.02	12.85	222.9	100.0	0	76
NO3-	0.32	0.01	2.60	132.9	100.0	0	76
Na+	1.38	0.14	59.39	576.0	100.0	0	76
Precip	-	0.0	48.7	416.7	99.9	290	366
SO4--	1.06	0.10	9.22	442.2	100.0	0	76
SO4-- corr	0.94	0.01	7.55	393.9	100.0	0	76
cond	23.63	6.40	419.00	9847.1	100.0	0	76
pH	4.89	4.03	8.20	5388.1	99.8	0	75

RU0017R Dunai Russian Federation

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.52	0.15	4.72	366.3	99.6	0	156
Cl-	0.49	0.03	9.95	346.6	100.0	0	157
H+	14.78	0.09	83.18	10414.0	97.7	0	136
K+	0.35	0.09	2.02	245.7	99.6	0	156
Mg++	0.090	0.020	1.280	63.2	99.6	0	156
NH4+	0.40	0.02	2.70	278.2	99.6	0	156
NO3-	0.34	0.01	2.49	239.2	100.0	0	157
Na+	0.49	0.05	2.23	348.2	99.6	0	156
Precip	-	0.0	54.0	704.8	99.9	209	366
SO4--	0.82	0.05	11.38	580.5	100.0	0	157
SO4-- corr	0.79	0.03	11.20	557.5	100.0	0	157
cond	13.06	4.80	73.80	9205.9	100.0	0	157
pH	4.83	4.08	7.03	10414.4	97.7	0	136

SE0005R Bredkalen Sweden

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.07	0.01	1.96	22.2	99.3	14	42
Cl-	0.19	0.01	3.49	61.2	99.3	4	42
K+	0.05	0.02	0.59	16.7	99.3	21	42
Mg++	0.018	0.005	0.280	5.8	99.3	15	42
NH4+	0.11	0.02	1.02	34.1	98.9	0	37
NO3-	0.10	0.02	0.75	33.3	99.3	0	42
Na+	0.11	0.03	2.42	34.5	99.3	17	42
Precip	-	0.0	39.3	319.1	99.9	15	62
SO4--	0.14	0.02	1.10	44.1	99.3	0	42
SO4-- corr	0.13	0.02	1.08	41.0	99.3	0	42
cond	6.34	2.00	64.00	2024.1	98.8	0	37
pH	5.09	4.35	6.52	2576.2	99.4	0	44

SE0011R Vavihill Sweden

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.11	0.01	0.57	88.4	100.0	6	51
Cl-	1.60	0.08	11.97	1269.0	100.0	0	51
K+	0.07	0.02	0.39	56.6	100.0	22	51
Mg++	0.123	0.005	0.800	97.7	100.0	3	51
NH4+	0.48	0.14	2.07	378.9	100.0	0	51
NO3-	0.45	0.11	2.78	358.1	100.0	0	51
Na+	0.93	0.03	4.91	738.5	100.0	5	51
Precip	-	0.0	64.6	791.3	99.9	12	62
SO4--	0.51	0.25	2.20	403.4	100.0	0	51
SO4-- corr	0.43	0.21	1.87	340.2	100.0	0	51
cond	21.17	9.00	85.00	16753.4	99.9	0	50
pH	4.72	4.14	6.07	14936.4	100.0	0	51

SE0014R Råö Sweden

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.20	0.01	4.13	148.9	99.5	8	151
Cl-	5.06	0.08	46.85	3674.9	99.6	0	154
K+	0.15	0.02	3.12	110.3	99.5	41	151
Mg++	0.376	0.005	3.930	273.1	99.5	3	151
NH4+	0.46	0.01	5.97	331.5	99.5	1	149
NO3-	0.44	0.04	3.27	319.3	99.6	0	154
Na+	2.96	0.03	29.86	2153.2	99.4	2	150
Precip	-	0.0	23.3	726.6	99.9	193	366
SO4--	0.63	0.06	5.73	457.8	99.6	0	154
SO4-- corr	0.39	-0.16	5.55	279.6	99.6	0	154
cond	35.71	4.00	205.00	25945.7	98.6	0	137
pH	4.68	3.58	7.08	15321.6	99.9	0	169

SI0008R Iskrba Slovenia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.33	0.01	9.36	518.8	97.9	5	137
Cl-	0.48	0.01	11.61	767.0	98.1	1	146
K+	0.05	0.01	0.95	74.2	97.9	27	137
Mg++	0.056	0.005	1.108	89.6	97.9	16	137
NH4+	0.30	0.01	2.19	482.5	97.9	3	137
NO3-	0.33	0.04	2.43	516.1	98.0	0	145
Na+	0.29	0.01	7.96	463.0	97.9	13	137
Precip	-	0.0	47.4	1585.4	99.6	207	365
Precip off	-	0.00	59.20	1765.8	99.9	193	366
SO4--	0.46	0.04	4.65	729.4	98.1	0	146
SO4-- corr	0.43	0.03	4.58	690.0	98.1	0	146
cond	14.40	3.00	74.00	22836.9	96.2	0	111
pH	4.82	4.00	7.14	23884.0	96.2	0	111

SK0002R Chopok Slovakia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.20	0.01	1.46	233.0	91.0	1	168
Cl-	0.21	0.03	1.13	254.4	92.4	1	170
K+	0.15	0.01	0.98	182.7	89.6	8	166
Mg++	0.025	0.003	0.168	30.1	91.3	18	169
NH4+	0.39	0.01	1.79	461.9	90.5	0	166
NO3-	0.30	0.06	1.82	353.3	92.6	0	171
Na+	0.19	0.01	1.09	229.1	90.1	4	166
Precip	-	0.0	41.3	1182.5	99.9	133	366
SO4--	0.56	0.08	2.99	663.1	92.1	0	169
SO4-- corr	0.55	0.08	2.94	645.2	92.1	0	169
cond	15.00	4.30	36.80	17734.2	75.0	0	100
pH	4.71	4.26	5.51	23132.4	75.0	0	100

SK0004R Stara Lesna Slovakia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.26	0.01	1.63	228.9	94.0	1	122
Cl-	0.30	0.02	2.82	264.7	94.7	0	120
K+	0.23	0.02	1.66	201.2	95.9	2	123
Mg++	0.035	0.004	0.251	30.4	96.1	14	124
NH4+	0.47	0.01	3.95	404.1	95.4	0	122
NO3-	0.35	0.03	1.73	303.5	96.3	0	125
Na+	0.26	0.03	2.41	222.3	94.6	1	120
Precip	-	0.1	62.6	868.5	99.9	182	366
SO4--	0.67	0.07	3.06	577.7	96.3	0	125
SO4-- corr	0.65	0.06	3.01	561.0	96.3	0	125
cond	18.33	5.25	66.07	15918.9	84.5	0	75
pH	4.72	4.08	6.44	16605.0	84.5	0	75

SK0005R Liesek Slovakia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.31	0.10	1.03	234.7	91.7	0	38
Cl-	0.33	0.07	1.52	248.0	99.2	0	39
K+	0.20	0.04	0.87	155.1	99.2	0	39
Mg++	0.041	0.003	0.125	30.9	91.7	0	38
NH4+	0.46	0.01	1.47	351.9	97.7	0	38
NO3-	0.39	0.16	1.07	294.5	99.2	0	39
Na+	0.22	0.02	0.72	166.6	97.6	0	38
Precip	-	0.0	93.4	760.0	83.0	1	44
SO4--	0.67	0.25	1.66	508.8	99.2	0	39
cond	18.48	8.63	39.03	14042.6	98.8	0	38
pH	4.68	4.17	6.12	15786.6	98.8	0	38

SK0006R Starina Slovakia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.36	0.04	3.10	353.9	95.8	0	120
Cl-	0.28	0.03	1.62	276.0	94.6	1	117
K+	0.26	0.01	1.60	252.5	95.3	1	120
Mg++	0.037	0.005	0.223	35.9	96.0	9	121
NH4+	0.42	0.03	2.68	417.3	96.0	0	121
NO3-	0.38	0.08	2.51	374.4	95.2	0	117
Na+	0.27	0.01	1.37	262.1	95.3	2	120
Precip	-	0.1	55.5	981.3	99.7	179	365
SO4--	0.65	0.16	3.64	639.1	94.9	0	117
cond	17.52	6.09	54.77	17190.8	87.1	0	78
pH	4.67	4.04	6.24	21125.7	87.1	0	78

SK0007R Topoliniky Slovakia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	0.27	0.05	0.78	22.0	93.9	0	20
Cl-	0.38	0.16	1.02	30.4	97.9	0	20
K+	0.34	0.09	1.57	27.5	98.0	0	20
Mg++	0.042	0.015	0.138	3.4	93.9	0	20
NH4+	0.34	0.01	0.84	26.9	99.1	1	21
NO3-	0.47	0.15	1.18	37.9	93.9	0	20
Na+	0.35	0.14	1.03	27.8	96.8	0	19
Precip	-	0.0	15.4	80.2	49.7	160	182
SO4--	0.54	0.20	1.19	42.9	99.1	0	21
SO4-- corr	0.51	0.17	1.14	40.7	99.1	0	21
cond	19.71	12.91	33.47	1581.1	85.3	0	13
pH	4.56	4.24	4.99	2206.6	85.3	0	13

TR0001R Cubuk II Turkey

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	1.77	0.55	18.76	386.7	99.1	0	42
Cl-	0.42	0.10	5.00	92.2	99.8	0	47
H+	2.74	0.04	47.10	599.9	98.6	0	38
K+	0.14	0.01	4.34	31.6	99.1	0	42
Mg++	0.108	0.023	1.057	23.6	99.0	0	41
NH4+	0.39	0.01	2.04	86.3	99.5	0	45
NO3-	0.34	0.05	3.05	75.1	99.8	0	47
Na+	0.43	0.04	5.94	93.9	99.1	0	42
Precip	-	0.1	22.4	218.8	76.0	229	278
SO4--	0.90	0.09	7.53	195.9	99.8	0	46
SO4-- corr	0.86	0.07	7.11	187.7	99.8	0	46
cond	19.29	6.22	94.80	4220.8	98.6	0	38
pH	5.56	4.33	7.44	600.0	98.6	0	38

YU0005R Kamenicki Vis Yugoslavia

January 2004 - December 2004

Component	W. mean	Min	Max	Dep	% anal	Num bel	Num sampl
Ca++	2.37	0.47	31.30	1971.5	69.6	0	82
Cl-	1.01	0.05	13.50	838.7	69.6	0	82
K+	0.30	0.02	5.95	253.7	69.6	0	82
Mg++	0.155	0.020	1.840	129.0	69.6	0	82
NH4+	0.79	0.06	10.13	655.1	69.7	0	83
NO3-	0.58	0.02	7.36	483.4	69.7	0	83
Na+	0.35	0.02	4.45	290.5	69.6	0	82
Precip	-	0.0	40.5	830.8	99.9	223	366
SO4--	1.67	0.20	14.25	1391.1	69.7	0	83
cond	26.59	6.00	150.00	22095.2	69.7	0	83
pH	6.05	4.90	8.43	742.6	69.7	0	83

Annex 3

Annual statistics on gases and aerosol data

AT0002R Illmitz Austria

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.15	0.19	0.10	2.50	0.01	0.02	0.09	0.45	1.80	96.6	0	354
HNO3	0.83	0.59	0.70	1.72	0.14	0.33	0.70	2.23	4.58	93.1	0	341
K+	0.15	0.12	0.12	2.16	0.00	0.03	0.12	0.41	0.60	96.6	1	354
Mg++	0.032	0.032	0.020	3.103	0.001	0.001	0.023	0.091	0.271	96.7	19	354
NH3	1.86	0.80	1.68	1.62	0.17	0.68	1.73	3.41	4.28	97.0	0	355
NH4+	0.65	0.47	0.51	2.13	0.02	0.14	0.54	1.55	2.87	96.7	0	354
NO2	2.19	1.14	1.95	1.61	0.65	0.85	1.99	4.85	7.12	69.9	0	256
NO3-	0.15	0.23	0.09	2.70	0.02	0.02	0.08	0.68	1.47	96.6	0	354
Na+	0.08	0.08	0.06	2.03	0.01	0.02	0.06	0.20	0.92	96.7	0	354
PM1	14.03	8.03	12.04	1.76	2.41	4.33	12.65	29.09	55.20	98.4	0	360
PM10	24.54	14.18	21.00	1.76	3.65	8.11	20.75	54.27	81.90	97.8	0	358
PM25	19.14	12.17	15.96	1.83	2.97	5.68	16.05	44.08	74.19	94.0	0	344
SO_2 (filterpack)	1.81	1.87	1.31	2.12	0.12	0.45	1.22	4.97	13.55	96.6	0	354
SO4--	0.82	0.48	0.70	1.78	0.13	0.25	0.72	1.79	3.73	96.6	0	354
SO2 (monitor)	1.03											

AT0004R St. Koloman Austria

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	2.34	2.07	1.33	3.48	0.05	0.12	1.77	5.93	8.78	18.9	0	69
PM10	12.66	12.35	8.08	2.73	0.41	1.63	9.16	45.76	56.53	21.6	0	79
SO2	0.41	0.35	0.29	2.23	0.10	0.12	0.21	1.05	2.10	94.5	0	346

AT0005R Vorhegg Austria

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	1.69	1.09	1.42	1.80	0.31	0.54	1.43	4.12	6.75	31.7	0	116
PM10	10.41	7.49	8.26	2.01	1.06	2.55	8.09	23.39	63.63	93.2	0	341
SO2 (filterpack)	0.35	0.56	0.21	2.63	0.01	0.05	0.19	1.06	7.34	89.3	0	327
SO2 (monitor)	0.31											

AT0048R Zoebelboden Austria

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	1.37	0.93	1.16	1.76	0.25	0.47	1.11	3.09	8.44	99.5	0	364
PM10	10.86	7.54	8.57	2.13	0.03	2.49	9.57	25.77	50.95	95.4	0	349
PM25	9.17	6.85	7.22	2.04	0.35	2.21	7.52	22.63	45.96	92.9	0	340
SO2	0.32	0.61	0.16	3.69	0.00	0.00	0.15	1.11	9.76	94.4	0	8290

BE0001R Offagne Belgium

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	4.30	2.86	3.57	1.83	1.00	2.00	4.00	10.00	20.00	85.4	0	7500

BE0032R Eupen Belgium

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	4.45	3.54	3.34	2.17	0.00	1.00	3.00	12.00	26.00	90.4	0	7937

BE0035R Vezin Belgium

August 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	5.86	3.97	5.33	1.99	0.00	0.00	6.00	13.00	24.00	29.4	0	2586

CH0001G Jungfraujoch Switzerland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	0.11	0.16	0.06	3.02	-0.00	0.00	0.06	0.36	1.26	85.2	0	312
SO2	0.07	0.06	0.05	1.97	0.01	0.01	0.05	0.16	0.56	94.5	18	346
SO4--	0.10	0.11	0.06	2.89	0.01	0.01	0.06	0.34	0.67	98.4	40	360
SPM	3.17	3.31	1.95	2.75	0.50	0.50	2.10	10.40	17.30	94.0	88	344

CH0002R Payerne Switzerland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	1.03	0.90	0.75	2.27	0.09	0.20	0.72	2.88	5.29	89.9	0	329
NH3+NH4+	4.12	2.13	3.66	1.65	0.66	1.47	3.86	7.69	20.32	89.9	0	329
NO2	4.38	2.66	3.66	1.83	0.84	1.38	3.69	10.27	13.86	98.9	0	362
PM10	19.98	11.31	17.20	1.74	3.81	6.51	17.20	43.66	64.20	98.4	0	360
PM25	14.86	10.07	12.17	1.89	2.80	4.22	11.90	36.18	59.40	99.2	0	363
SO2	0.49	0.33	0.39	1.98	0.08	0.13	0.41	1.20	1.79	98.9	0	362
SO4--	0.70	0.46	0.57	1.95	0.06	0.18	0.59	1.61	3.06	99.5	0	364

CH0003R Tanikon Switzerland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	4.45	2.63	3.75	1.80	0.94	1.39	3.62	9.62	13.45	99.7	0	365
PM10	19.43	11.51	16.37	1.83	1.65	5.80	16.64	42.92	72.85	100.0	0	366

CH0004R Chaumont Switzerland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	1.81	1.05	1.54	1.79	0.31	0.59	1.52	3.83	5.85	100.0	0	366
PM1	6.54	4.03	5.41	1.89	0.40	2.10	5.40	14.84	20.60	99.2	0	363
PM10	11.24	7.06	8.97	2.10	0.30	2.69	9.98	25.24	43.03	99.7	0	365
PM25	8.15	5.16	6.70	1.90	1.10	2.40	6.80	18.26	31.10	98.4	0	360
SO2	0.50	0.40	0.36	2.34	0.02	0.08	0.40	1.38	2.37	100.0	0	366

CH0005R Rigi Switzerland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.79	0.68	0.54	2.55	0.04	0.09	0.62	2.09	4.27	97.8	0	358
NH3+NH4+	1.80	1.20	1.33	2.42	0.07	0.22	1.67	4.02	6.78	99.5	0	364
NO2	4.36	3.91	3.23	2.13	0.34	1.18	2.91	12.70	26.86	87.4	0	320
PM10	11.95	7.33	9.65	2.03	0.51	2.69	10.65	26.63	41.76	100.0	0	366
SO2	0.34	0.26	0.27	1.91	0.03	0.09	0.27	0.78	2.43	98.9	0	362
SO4--	0.50	0.33	0.39	2.18	0.04	0.08	0.46	1.12	1.87	100.0	0	366

CY0002R Ayia Marina Cyprus

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
PM10	29.85	29.65	23.31	1.97	3.00	8.00	23.30	66.30	832.30	97.8	0	8589

CZ0001R Svratouch Czech Republic

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.78	0.44	0.68	1.73	0.09	0.27	0.67	1.65	2.73	99.7	0	365
NH3+NH4+	1.68	0.85	1.45	1.75	0.19	0.56	1.51	3.26	4.28	99.9	0	366
NO2	2.63	1.77	2.15	1.91	0.76	0.76	2.13	6.91	11.27	99.7	71	365
SO2	1.17	0.97	0.86	2.28	0.05	0.20	0.90	2.94	6.46	99.7	0	365
SO4--	0.82	0.54	0.67	1.93	0.03	0.23	0.67	1.94	3.20	99.9	0	366

CZ0003R Kosetice Czech Republic

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.81	0.49	0.68	1.83	0.04	0.27	0.66	1.81	3.00	99.7	0	365
NH3+NH4+	2.16	1.30	1.82	1.84	0.27	0.60	1.94	4.53	9.95	99.1	0	363
NO2	2.78	1.09	2.55	1.56	0.76	0.76	2.74	4.69	8.65	99.7	27	365
SO2	0.88	0.89	0.60	2.37	0.10	0.15	0.60	2.77	6.81	99.7	0	365
SO4--	0.91	0.62	0.74	1.90	0.07	0.27	0.73	2.20	3.94	99.9	0	366

DE0001R Westerland Germany

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.93	0.74	0.66	2.49	0.04	0.09	0.74	2.63	4.13	97.3	28	356
NH3+NH4+*	1.45	1.09	1.07	2.34	0.07	0.18	1.13	3.68	5.57	30.3	8	111
NO2	2.29	2.23	1.59	2.65	0.00	0.18	1.75	6.40	13.75	89.9	0	329
SO2	0.56	0.39	0.45	2.06	0.00	0.11	0.47	1.48	2.45	97.0	1	355
SO4--	0.81	0.55	0.66	1.95	0.04	0.23	0.66	1.92	3.79	98.1	0	359

* missing the period between 15 February – 1 October

DE0002R Langenbrugge Germany

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	2.90	2.30	2.29	1.97	0.53	0.82	2.19	8.22	15.24	90.7	0	332
PM1	7.52	5.58	5.93	2.03	0.41	1.73	6.04	18.23	41.11	99.2	0	363
PM10	17.51	10.22	15.34	1.66	3.40	7.03	14.88	35.09	99.59	100.0	0	366
PM25	13.29	9.58	10.93	1.84	2.57	4.09	10.38	31.06	90.43	97.8	0	358
SO2	0.77	0.68	0.56	2.22	0.03	0.15	0.55	2.37	4.45	100.0	2	366

DE0003R Schauinsland Germany

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.62	0.53	0.42	2.61	0.03	0.06	0.47	1.68	3.19	88.3	50	323
NH3+NH4+*	0.62	0.67	0.35	3.03	0.04	0.07	0.46	2.25	3.12	32.5	55	119
NO2	0.97	0.71	0.79	1.91	0.07	0.30	0.73	2.40	4.24	86.6	0	317
PM10	10.43	11.11	6.99	2.85	0.05	1.60	7.60	25.84	150.30	96.2	6	352
PM25	7.21	5.41	5.37	2.31	0.05	1.70	5.70	17.66	29.50	95.9	2	351
SO2	0.41	0.31	0.31	2.30	0.00	0.06	0.32	0.96	2.20	86.1	1	315
SO4--	0.58	0.44	0.43	2.32	0.03	0.08	0.47	1.42	2.39	90.4	0	331

* missing the period between 1 March-1 October

DE0004R Deuselbach Germany

January 2004 – 1 August 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	1.11	0.79	0.87	2.08	0.04	0.29	0.85	2.43	4.85	57.4	5	210
NH3+NH4+	1.86	1.01	1.55	1.98	0.12	0.47	1.77	4.04	5.05	24.3	2	89
NO2	2.55	1.73	2.10	1.86	0.51	0.85	2.05	6.02	9.06	47.8	0	175
PM10	18.13	10.10	15.43	1.83	1.22	5.66	15.99	37.31	57.37	41.5	0	152
PM25	14.04	8.81	11.49	1.95	2.14	3.10	12.45	30.88	51.32	41.5	0	152
SO2	0.99	0.94	0.72	2.24	0.07	0.19	0.76	2.37	8.30	56.0	0	205
SO4--	0.98	0.55	0.84	1.80	0.12	0.27	0.87	2.04	3.17	58.2	0	213

DE0005R Brotjacklriegel Germany

January 2004 – 1 August 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	1.60	0.96	1.41	1.60	0.54	0.73	1.31	3.15	7.38	38.0	0	139
PM10	12.27	7.75	9.64	2.18	1.00	2.00	11.00	28.00	48.00	41.5	0	152
SO2	1.02	0.89	0.71	2.53	0.03	0.15	0.75	2.62	5.95	57.6	2	211

DE0007R Neuglobsow Germany

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.79	0.62	0.61	2.13	0.03	0.23	0.60	1.94	5.19	92.3	15	338
NH3+NH4+*	1.43	1.25	1.04	2.37	0.10	0.17	1.05	3.62	10.14	38.5	14	141
NO2	2.08	1.80	1.63	1.92	0.42	0.66	1.45	5.70	12.17	89.6	0	328
PM10	13.78	11.80	11.11	1.89	1.00	4.00	11.00	33.30	144.00	100.0	0	366
SO2	0.66	1.10	0.36	2.77	0.00	0.08	0.35	2.49	10.72	93.7	0	343
SO4--	0.87	0.81	0.66	2.18	0.02	0.20	0.68	2.12	9.63	99.2	0	363

* missing the period between 1 March – 1 October

DE0008R Schmucke Germany

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	1.90	1.26	1.60	1.80	0.09	0.66	1.57	4.27	10.40	89.1	0	326
PM10	10.34	8.03	8.33	2.18	0.00	0.35	8.00	26.00	42.00	100.0	0	366
SO2	0.53	0.58	0.29	3.44	0.03	0.03	0.35	1.55	4.50	90.7	41	332

DE0009R Zingst Germany

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.94	0.62	0.77	1.94	0.04	0.28	0.76	2.20	3.89	98.1	6	359
NH3+NH4+*	1.73	1.65	1.11	2.91	0.07	0.12	1.27	5.00	10.01	38.8	20	142
NO2	2.27	1.59	1.87	1.85	0.13	0.72	1.86	5.35	11.19	90.4	0	331
PM10	15.19	10.84	13.64	1.70	0.00	3.20	12.82	35.52	93.97	100.0	0	366
SO2	0.77	0.85	0.57	2.06	0.01	0.21	0.53	2.32	8.96	98.4	0	360
SO4--	0.87	0.70	0.70	1.92	0.13	0.22	0.69	2.17	5.51	98.9	0	362

* missing the period between 1 March – 1 October

DK0003R Tange Denmark

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.72	0.67	0.49	2.47	0.04	0.11	0.48	2.11	4.10	98.8	0	362
NH3+NH4+	2.08	1.52	1.70	1.85	0.46	0.69	1.57	5.46	9.39	98.8	0	362
Na+	1.05	0.94	0.69	2.71	0.02	0.13	0.72	2.77	6.02	99.6	2	365
SO2	0.26	0.33	0.15	2.77	0.01	0.03	0.13	1.09	2.19	99.6	1	365
SO4--	0.69	0.51	0.56	1.90	0.13	0.20	0.53	1.66	4.24	99.4	0	364

DK0005R Keldsnor Denmark

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	2.20	2.33	1.20	3.57	-0.25	0.09	1.54	6.71	23.27	86.8	947	7626
PM10	20.29	10.01	17.91	1.68	2.79	7.04	17.70	41.93	52.18	68.2	2	250

DK0008R Anholt Denmark

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.70	0.64	0.49	2.39	0.04	0.10	0.53	1.99	4.24	98.8	0	362
NH3+NH4+	1.06	0.94	0.76	2.31	0.10	0.18	0.82	3.13	6.73	99.1	0	363
NO2	1.52	1.39	1.03	2.90	0.00	0.23	1.18	3.79	11.41	93.4	9	342
Na+	1.70	1.22	1.27	2.34	0.03	0.25	1.38	4.16	5.92	99.1	1	363
SO2	0.50	0.54	0.31	2.97	0.00	0.06	0.31	1.61	3.58	99.1	5	363
SO4--	0.79	0.48	0.67	1.77	0.13	0.28	0.68	1.78	3.20	99.6	0	365

DK0020R Pedersker, Bornholm Denmark

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
PM10	20.29	10.01	17.91	1.68	2.79	7.04	17.70	41.93	52.18	68.2	2	250

EE0009R Lahemaa Estonia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	2.68	1.75	2.20	1.91	0.10	0.80	2.20	6.44	9.60	99.2	0	363
SO2	1.26	1.39	0.82	2.48	0.10	0.20	0.80	4.17	10.30	96.2	0	352

EE0011R Vilsandi Estonia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	2.04	1.72	1.64	1.90	0.30	0.60	1.50	4.89	17.40	98.4	0	360
SO2	0.79	0.93	0.53	2.35	0.10	0.10	0.50	2.30	8.40	98.9	0	362

ES0007R Viznar Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.39	0.26	0.32	1.92	0.03	0.14	0.29	0.87	1.78	96.4	3	353
NH3+NH4+	0.70	0.65	0.50	2.35	0.02	0.12	0.49	2.00	5.09	97.3	3	356
NO2	2.45	2.60	1.66	2.37	0.03	0.47	1.53	7.55	39.87	96.2	0	8448
NO3- (PM10)	0.49	0.33	0.41	1.86	0.03	0.13	0.41	1.16	2.13	95.9	0	351
PM10	24.44	22.50	17.99	2.22	2.00	5.00	20.00	66.00	196.00	95.9	0	351
PM25	11.09	6.77	9.20	1.90	1.00	3.00	10.00	23.00	48.00	94.0	0	344
SO2	0.36	0.43	0.26	2.06	0.08	0.10	0.23	0.98	9.10	98.8	0	8679
SO4—- (PM10)	0.81	0.51	0.67	1.84	0.07	0.25	0.66	1.71	3.19	95.9	0	351

ES0008R Niembro Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.47	0.28	0.41	1.74	0.03	0.17	0.39	1.05	1.88	94.8	1	347
NH3+NH4+	0.32	0.48	0.24	1.99	0.02	0.09	0.23	0.62	5.91	92.3	3	338
NO2	2.02	2.06	1.40	2.39	0.03	0.33	1.42	5.81	21.70	97.3	0	8544
NO3- (PM10)	0.37	0.22	0.31	1.77	0.05	0.13	0.33	0.83	1.38	59.3	0	217
PM10	16.40	7.67	14.82	1.57	5.00	6.90	15.00	31.10	54.00	59.3	0	217
PM25	9.64	6.34	7.96	1.86	1.00	3.00	7.00	20.55	36.00	62.3	0	228
SO2	2.19	3.02	1.22	2.91	0.08	0.22	1.15	7.60	38.60	97.8	0	8594
SO4—-(PM10)	1.19	1.02	0.92	1.99	0.13	0.35	0.85	3.50	7.06	59.3	0	217

ES0009R Campisabalos Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.27	0.12	0.25	1.50	0.03	0.14	0.24	0.48	1.11	97.5	1	357
NH3+NH4+	1.24	0.75	1.02	1.96	0.02	0.32	1.10	2.72	4.67	94.8	1	347
NO2	0.93	0.81	0.76	1.86	0.04	0.27	0.76	2.03	19.87	94.2	0	8272
NO3- (PM10)	0.26	0.18	0.22	1.75	0.04	0.09	0.21	0.59	1.36	88.5	0	324
PM10	13.25	13.15	9.26	2.32	1.00	3.00	9.00	34.00	97.00	88.5	0	324
PM25	8.42	5.55	6.77	1.99	1.00	2.00	7.00	17.75	33.00	83.1	0	304
SO2	0.38	0.60	0.23	2.34	0.08	0.09	0.18	1.27	7.45	95.1	0	8356
SO4-- (PM10)	0.56	0.39	0.45	1.95	0.09	0.15	0.46	1.37	2.23	88.5	0	324

ES0010R Cabo de Creus Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.55	0.43	0.43	2.12	0.03	0.14	0.46	1.23	4.17	90.7	4	332
NH3+NH4+	1.18	0.72	0.87	2.60	0.02	0.11	1.17	2.36	3.57	90.7	3	332
NO2	1.64	1.36	1.29	1.97	0.04	0.45	1.25	4.20	12.54	94.1	0	8265
NO3- (PM10)	0.55	0.41	0.44	2.00	0.01	0.15	0.44	1.34	2.87	89.9	0	329
PM10	21.11	9.35	19.29	1.53	6.00	10.00	19.00	37.60	79.00	89.3	0	327
PM25	12.78	7.99	10.99	1.72	3.00	4.00	11.00	25.00	90.00	86.6	0	317
SO2	0.27	0.33	0.20	1.94	0.08	0.10	0.17	0.77	5.90	95.7	0	8406
SO4-- (PM10)	1.31	0.90	1.05	1.95	0.24	0.38	1.04	3.24	4.70	89.9	0	329

ES0011R Barcarrola Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.31	0.15	0.27	1.68	0.03	0.13	0.28	0.61	0.93	94.3	5	345
NH3+NH4+	0.48	0.49	0.30	2.67	0.02	0.06	0.27	1.60	2.38	98.1	3	359
NO2	1.34	1.02	1.06	2.04	0.03	0.32	1.09	3.35	10.90	94.2	0	8277
NO3- (PM10)	0.28	0.16	0.25	1.60	0.07	0.13	0.24	0.59	1.23	94.0	0	344
PM10	18.60	19.13	14.52	1.93	3.00	5.00	14.00	39.80	246.00	93.7	0	343
PM25	10.69	7.92	8.59	1.94	1.00	3.00	9.00	24.00	63.00	93.7	0	343
SO2	0.52	0.77	0.33	2.37	0.08	0.10	0.29	1.60	24.95	94.5	0	8304
SO4-- (PM10)	0.83	0.62	0.67	1.92	0.17	0.26	0.61	2.11	4.25	94.0	0	344

ES0012R Zarra Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.54	0.31	0.46	1.82	0.03	0.17	0.47	1.07	2.02	97.5	1	357
NH3+NH4+	1.99	1.05	1.69	1.83	0.21	0.57	1.90	4.00	5.33	99.2	0	363
NO2	1.15	0.87	0.94	1.85	0.17	0.36	0.91	2.74	10.59	94.4	0	8289
NO3- (PM10)	0.45	0.31	0.38	1.81	0.08	0.13	0.37	1.10	2.99	96.7	0	354
PM10	17.23	13.11	13.58	2.02	2.00	4.00	14.00	41.60	103.00	96.4	0	353
PM25	8.32	4.82	6.98	1.87	1.00	2.00	7.00	16.00	30.00	97.0	0	355
SO2	0.47	0.53	0.36	1.97	0.08	0.14	0.34	1.24	17.65	94.9	0	8332
SO4-- (PM10)	1.00	0.70	0.79	2.02	0.14	0.25	0.83	2.49	4.34	96.7	0	354

ES0013R Penausende Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.19	0.05	0.18	1.46	0.03	0.10	0.19	0.28	0.47	98.6	9	361
NH3+NH4+	1.42	0.78	1.21	1.83	0.12	0.45	1.30	2.83	5.08	99.2	0	363
NO2	1.21	0.98	0.92	2.20	0.03	0.24	0.95	3.00	11.05	97.5	0	8567
NO3- (PM10)	0.30	0.24	0.24	1.82	0.05	0.10	0.24	0.69	2.06	95.4	0	349
PM10	13.26	14.57	10.35	1.91	2.00	4.00	10.00	30.00	197.00	95.1	0	348
PM25	8.47	6.22	6.88	1.90	1.00	3.00	7.00	20.00	53.00	92.6	0	339
SO2	0.76	1.27	0.47	2.31	0.09	0.18	0.37	2.60	23.40	98.2	0	8625
SO4-- (PM10)	0.72	0.53	0.58	1.92	0.08	0.21	0.57	1.76	3.80	95.4	0	349

ES0014R Els Torms Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.62	0.44	0.51	1.81	0.14	0.18	0.53	1.49	3.34	97.8	0	358
NH3+NH4+	5.25	3.74	4.09	2.19	0.12	0.86	4.75	10.43	20.73	95.1	0	348
NO2	1.45	1.22	1.12	2.03	0.04	0.38	1.07	4.05	11.81	97.9	0	8600
NO3- (PM10)	0.62	0.60	0.47	1.95	0.08	0.20	0.42	1.92	4.10	93.2	0	341
PM10	22.28	13.82	18.76	1.81	4.00	7.00	20.00	49.00	107.00	93.2	0	341
PM25	12.61	7.85	10.41	1.90	2.00	3.00	11.00	27.15	50.00	91.8	0	336
SO2	0.44	0.71	0.31	2.04	0.08	0.12	0.27	1.18	16.90	97.9	0	8596
SO4-- (PM10)	1.32	0.94	1.03	2.04	0.19	0.33	0.99	3.13	5.56	93.2	0	341

ES0015R Risco Llano Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.34	0.24	0.28	1.85	0.03	0.13	0.25	0.79	1.70	95.6	3	350
NH3+NH4+	0.71	0.48	0.52	2.44	0.02	0.11	0.62	1.66	2.25	93.4	2	342
NO2	0.92	0.97	0.68	2.16	0.03	0.19	0.68	2.33	27.30	96.7	0	8495
NO3- (PM10)	0.35	0.26	0.28	1.95	0.01	0.09	0.27	0.95	1.80	91.3	0	334
PM10	15.91	17.76	11.15	2.27	2.00	3.00	11.00	42.60	167.00	89.3	0	327
PM25	8.25	6.24	6.45	2.06	1.00	2.00	7.00	19.00	50.00	89.1	0	326
SO2	0.57	0.77	0.40	2.14	0.08	0.12	0.38	1.46	17.05	97.0	0	8517
SO4-- (PM10)	0.63	0.44	0.51	1.91	0.03	0.19	0.48	1.50	3.53	91.3	0	334

ES0016R O Saviñao Spain

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.27	0.24	0.22	1.83	0.03	0.10	0.19	0.68	2.15	96.4	7	353
NH3+NH4+	1.08	0.79	0.83	2.11	0.09	0.24	0.89	2.49	6.58	96.2	0	352
NO2	1.69	1.43	1.29	2.10	0.03	0.38	1.32	4.38	16.98	96.4	0	8472
NO3- (PM10)	0.24	0.16	0.20	1.79	0.00	0.07	0.20	0.53	1.29	91.5	1	335
PM10	13.29	9.07	11.21	1.77	2.00	5.00	10.00	29.60	88.00	91.0	0	333
PM25	9.14	6.57	7.16	2.05	1.00	2.00	7.00	24.00	39.00	83.6	0	306
SO2	1.50	3.47	0.59	3.61	0.08	0.11	0.50	5.70	90.50	97.7	0	8584
SO4-- (PM10)	1.02	0.90	0.75	2.16	0.15	0.22	0.71	3.02	5.34	91.5	0	335

FI0009R Uto Finland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.35	0.27	0.26	2.22	0.02	0.06	0.28	0.81	2.19	95.6	0	350
NH3+NH4+	0.42	0.39	0.28	2.48	0.02	0.06	0.30	1.29	2.83	94.7	0	347
NO2	1.38	1.18	1.02	2.19	0.04	0.27	1.03	3.66	18.55	91.1	0	8003
SO2	0.43	0.36	0.33	2.12	0.01	0.10	0.32	1.23	2.34	96.1	1	352
SO4--	0.54	0.43	0.40	2.22	0.04	0.10	0.45	1.34	3.13	95.6	0	350

FI0017R Virolahti II Finland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.27	0.20	0.21	2.14	0.02	0.06	0.22	0.62	1.70	99.1	0	363
NH3+NH4+	0.52	0.41	0.39	2.15	0.05	0.10	0.39	1.31	2.61	99.4	0	364
NO2	1.73	1.88	1.10	2.71	-0.03	0.20	1.18	5.04	25.72	98.8	0	8677
SO2	0.72	0.86	0.42	2.99	0.01	0.08	0.44	2.73	6.85	97.2	3	356
SO4--	0.62	0.51	0.47	2.16	0.05	0.13	0.50	1.59	4.16	99.1	0	363

FI0022R Oulanka Finland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.06	0.04	0.05	1.90	0.01	0.02	0.05	0.15	0.21	97.7	0	52
NH3+NH4+	0.15	0.13	0.12	2.04	0.03	0.04	0.12	0.52	0.66	97.7	0	52
NO2	0.30	0.34	0.20	2.63	-0.01	0.04	0.20	0.88	5.28	90.5	0	7953
SO2	0.21	0.23	0.13	2.92	0.01	0.02	0.13	0.68	1.25	95.8	0	51
SO4--	0.38	0.28	0.31	1.89	0.07	0.09	0.31	1.10	1.42	97.7	0	52

FI0037R Ahtari II Finland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.15	0.08	0.12	2.40	0.00	0.04	0.15	0.29	0.41	98.8	0	52
NH3+NH4+	0.31	0.23	0.24	2.17	0.01	0.08	0.25	0.74	1.45	98.8	0	52
NO2	1.06	0.80	0.84	2.02	-0.16	0.25	0.86	2.61	8.36	98.4	0	8642
SO2	0.26	0.25	0.17	2.79	0.01	0.03	0.19	0.66	1.43	96.9	0	51
SO4--	0.42	0.30	0.33	2.58	0.00	0.08	0.35	1.21	1.63	98.8	0	52

FR0008R Donon France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	5.57	5.95	4.21	2.26	0.00	0.00	4.00	17.00	57.00	96.5	0	8475
SO2	0.46	0.49	0.33	2.12	0.15	0.17	0.20	1.29	4.39	97.4	208	357
SO4--	0.47	0.31	0.39	1.92	0.04	0.13	0.40	1.10	1.97	95.5	3	350

FR0009R Revin France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.71	0.81	0.46	2.42	0.17	0.18	0.45	2.29	5.85	99.1	159	363
SO4--	0.69	0.41	0.59	1.74	0.12	0.25	0.57	1.42	2.75	98.8	0	362

FR0010R Morvan France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.29	0.21	0.25	1.65	0.04	0.17	0.20	0.75	1.61	97.7	268	358
SO4--	0.47	0.31	0.39	1.92	0.05	0.14	0.39	1.12	1.67	98.0	7	359

FR0012R Iraty France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.47	0.56	0.33	2.12	0.14	0.16	0.21	1.40	6.26	94.7	204	347
SO4--	0.52	0.38	0.40	2.16	0.04	0.12	0.43	1.26	2.44	93.3	9	342

FR0013R Peyrusse Vieille France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	4.08	2.87	3.44	2.09	0.00	0.25	4.00	9.00	43.25	97.9	0	8599
SO2	0.55	0.49	0.40	2.14	0.12	0.14	0.39	1.67	2.96	93.9	152	344
SO4--	0.64	0.43	0.53	1.87	0.11	0.18	0.53	1.54	3.19	93.9	0	344

FR0014R Montandon France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.24	0.18	0.20	1.67	0.11	0.12	0.17	0.61	1.33	95.3	254	349
SO4--	0.31	0.17	0.27	1.71	0.04	0.11	0.27	0.66	1.33	94.4	2	346

FR0015R La Tardière France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	9.75	6.46	8.31	1.73	1.75	4.00	8.00	22.50	112.50	76.2	0	6692
SO2	0.39	0.30	0.31	1.94	0.14	0.15	0.20	1.08	1.88	99.6	188	365
SO4--	0.60	0.35	0.52	1.69	0.13	0.24	0.50	1.42	2.12	98.8	0	362

FR0016R Le Casset France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.23	0.16	0.21	1.56	0.12	0.14	0.17	0.56	1.50	91.2	299	334
SO4--	0.31	0.27	0.24	2.06	0.04	0.09	0.22	0.79	2.77	92.2	10	338

FR0017R Montfranc France

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.28	0.29	0.23	1.78	0.12	0.14	0.17	0.70	2.49	94.7	255	347
SO4--	0.50	0.34	0.41	1.86	0.04	0.16	0.40	1.19	2.86	96.1	2	352

GB0002R Eskdalemuir United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.22	0.12	0.21	1.55	0.11	0.11	0.20	0.55	0.55	99.3	0	12
SO4--	0.36	0.36	0.26	2.19	0.00	0.09	0.24	1.22	2.40	98.6	1	361

GB0006R Lough Navar United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.06	0.03	0.05	1.69	0.02	0.02	0.05	0.11	0.11	91.6	0	13
SO4--	0.29	0.33	0.20	2.29	0.02	0.05	0.19	0.94	2.97	96.6	0	354

GB0007R Barcomb Mills United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO4--	0.78	0.57	0.63	1.94	0.02	0.26	0.60	1.88	4.18	98.3	0	360

GB0013R Yarner Wood United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.38	0.17	0.34	1.63	0.15	0.15	0.36	0.68	0.68	84.0	0	11
SO4--	0.48	0.47	0.31	2.70	0.01	0.05	0.32	1.46	3.83	94.7	0	347

GB0014R High Muffles United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.78	0.30	0.73	1.41	0.41	0.41	0.67	1.48	1.48	99.3	0	13
SO4--	0.51	0.43	0.39	2.03	0.08	0.14	0.38	1.52	2.76	99.6	0	365

GB0015R Strathvaich Dam United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO2	0.06	0.03	0.05	1.68	0.02	0.02	0.05	0.14	0.14	100.0	0	16

GB0036R Harwell United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	12.00	11.17	8.32	2.47	0.00	1.70	8.40	35.90	83.50	95.7	0	8407

GB0037R Ladybower United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	9.25	9.24	6.27	2.50	0.00	1.10	6.30	27.90	89.20	89.9	0	7901

GB0038R Lullington Heath United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	10.22	8.99	7.33	2.37	0.00	1.50	7.40	28.70	77.50	92.8	0	8153

GB0045R Wicken Fen United Kingdom

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	11.28	10.27	7.75	2.49	0.00	1.50	8.00	33.80	68.60	73.1	0	6419

GR0002R Finokalia Greece

September 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
PM10	22.85	17.47	18.51	1.91	1.90	6.50	18.80	48.63	189.20	27.5	0	2413

HU0002R K-Puszta Hungary

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3	0.21	0.17	0.16	2.23	0.01	0.04	0.17	0.56	1.43	93.1	3	341
NH3	1.08	0.73	0.76	2.93	0.02	0.05	0.93	2.42	3.80	93.4	16	342
NH4+	1.06	0.95	0.64	3.32	0.01	0.06	0.74	3.15	4.50	93.1	9	341
NO2	1.54	0.86	1.35	1.66	0.23	0.65	1.26	3.34	6.25	98.6	0	361
NO3-	0.54	0.54	0.34	2.78	0.01	0.08	0.32	1.72	2.78	93.1	2	341
SO2	1.65	1.71	0.96	3.17	0.01	0.13	0.98	5.45	8.29	92.8	2	340
SO4--	1.21	0.90	0.93	2.11	0.03	0.27	0.97	3.17	5.87	92.8	0	340

IE0001R Valentia Obs. Ireland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.14	0.11	0.10	2.26	0.03	0.03	0.11	0.34	0.67	99.6	62	365
HNO3+NO3-	0.24	0.47	0.12	3.02	0.01	0.02	0.10	0.83	5.13	99.6	15	365
K+	0.10	0.27	0.07	2.20	0.03	0.03	0.08	0.22	5.11	99.6	104	365
Mg++	0.738	9.797	0.139	3.126	0.025	0.025	0.160	0.677	187.34	99.6	72	365
NH3+NH4+	0.67	0.60	0.59	1.99	0.00	0.00	0.54	1.67	6.81	99.6	4	365
NO2	0.47	0.59	0.30	2.57	0.00	0.05	0.30	1.56	4.60	99.9	26	366
Na+	1.93	1.92	1.11	3.48	0.03	0.07	1.34	5.71	11.56	99.6	13	365
SO2	0.19	0.24	0.12	3.09	0.00	0.00	0.14	0.63	1.92	99.3	38	364
SO4--	0.38	0.45	0.32	2.01	0.00	0.00	0.27	0.89	4.72	99.1	0	363

IS0002R Irafoss Iceland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
SO4--	0.06	0.07	0.04	2.16	0.00	0.01	0.04	0.15	0.86	99.1	2	363

IS0091R Storhofdi Iceland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Cl-	10.56	5.15	9.54	1.53	4.30	4.75	9.30	25.09	25.90	99.8	0	25
NO3-	0.07	0.07	0.05	2.43	0.01	0.01	0.05	0.27	0.28	99.8	0	25
SO4--	0.63	0.27	0.59	1.44	0.30	0.32	0.58	1.44	1.58	99.8	0	25

IT0001R Montelibretti Italy

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3	0.40	0.35	0.27	2.52	0.00	0.06	0.27	1.14	1.80	93.4	0	342
NH3	1.70	0.81	1.51	1.70	0.05	0.57	1.60	3.02	5.98	93.4	0	342
NH4+	1.61	0.88	1.37	1.85	0.06	0.41	1.54	3.31	5.05	93.4	0	342
NO2	5.69	2.44	5.22	1.52	1.06	2.63	5.25	10.59	15.28	98.1	0	359
NO3-	0.23	0.39	0.10	3.45	0.00	0.02	0.07	0.98	2.60	93.4	0	342
PM10	28.96	13.78	25.68	1.70	0.00	9.86	27.61	51.50	107.33	96.4	0	353
SO2	0.62	0.36	0.51	1.92	0.06	0.14	0.55	1.34	1.79	93.2	0	341
SO4--	0.98	0.77	0.71	2.57	0.00	0.15	0.75	2.58	4.38	93.4	0	342

IT0004R Ispra Italy

January 2004 - December 2004
PM2.5 fraction

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NH4+	1.65	1.88	1.18	3.08	-0.91	-0.50	1.25	5.40	14.05	91.7	0	336
NO3-	0.99	1.43	0.44	3.90	0.00	0.05	0.46	3.85	11.11	91.7	0	336
PM25	28.25	21.22	22.12	2.05	2.18	7.12	22.82	69.73	144.81	91.7	0	336
SO4--	1.06	0.81	0.77	2.43	-0.03	0.14	0.86	2.58	4.13	91.7	0	336

IT0004R Ispra Italy

January 2004 - December 2004
PM10 fraction

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NH4+	1.99	2.18	1.44	2.85	-0.81	-0.46	1.42	6.48	13.21	96.9	0	355
NO3-	1.24	1.67	0.62	3.49	-0.04	0.06	0.62	4.42	10.93	96.9	0	355
PM10	34.71	24.66	27.70	1.99	3.78	8.55	27.53	80.73	153.92	96.4	0	353
SO4--	1.13	0.85	0.79	2.65	-0.01	0.14	0.91	2.77	4.15	96.9	0	355

LT0015R Preila Lithuania

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.67	0.53	0.51	2.19	0.01	0.17	0.51	1.76	3.27	96.6	0	354
NH3+NH4+	1.69	0.94	1.44	1.78	0.29	0.55	1.47	3.49	5.33	96.6	0	354
NO2	1.20	0.80	1.03	1.73	0.12	0.46	0.96	2.63	6.27	96.4	0	353
SO2	0.83	1.05	0.51	2.56	0.04	0.13	0.43	3.16	9.41	96.6	0	354
SO4--	0.95	0.62	0.81	1.74	0.17	0.33	0.78	2.22	4.11	96.9	0	355
SPM	16.15	15.45	12.29	2.01	3.00	4.35	11.00	42.65	157.00	99.9	0	366

LV0010R Rucava Latvia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.39	0.34	0.28	2.24	0.03	0.07	0.28	1.08	2.29	97.8	0	358
NH3+NH4+	1.06	0.81	0.82	2.09	0.06	0.26	0.83	3.01	5.17	97.0	0	355
NH4+	0.62	0.63	0.41	2.62	0.01	0.09	0.43	1.86	4.53	97.3	15	356
NO2	0.89	0.55	0.75	1.92	0.01	0.33	0.74	1.88	4.47	98.1	3	359
NO3-	0.08	0.10	0.05	2.48	0.01	0.01	0.05	0.25	0.94	97.8	2	358
SO2	0.60	0.62	0.42	2.27	0.04	0.10	0.42	1.90	5.54	97.8	0	358
SO4--	0.45	0.51	0.26	3.15	0.01	0.03	0.30	1.42	4.11	97.8	27	358

LV0016R Zoseni Latvia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.23	0.20	0.18	2.07	0.03	0.05	0.18	0.63	1.38	100.0	0	366
NH3+NH4+	0.85	0.51	0.72	1.82	0.10	0.27	0.72	1.84	2.93	100.0	0	366
NH4+	0.59	0.41	0.47	2.13	0.01	0.13	0.48	1.33	2.66	100.0	13	366
NO2	0.60	0.47	0.47	2.12	0.02	0.13	0.49	1.49	2.93	100.0	9	366
NO3-	0.05	0.06	0.03	2.42	0.01	0.01	0.03	0.15	0.54	100.0	20	366
SO2	0.50	0.47	0.34	2.62	0.01	0.06	0.36	1.43	3.07	100.0	17	366
SO4--	0.39	0.36	0.26	2.66	0.01	0.04	0.30	1.15	2.55	100.0	37	366

NL0009R Kollumerwaard Netherlands

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NH4+	1.24	0.95	0.92	2.27	0.00	0.22	0.99	2.99	6.77	95.1	0	348
NO2	3.60	3.66	2.19	3.04	-0.35	0.33	2.42	11.81	25.46	98.8	0	8682

NO0001R Birkenes Norway

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.05	0.07	0.03	3.37	0.01	0.01	0.03	0.20	0.63	98.3	85	360
Cl-	0.35	0.72	0.08	6.27	0.01	0.01	0.07	1.58	7.35	97.7	122	358
HNO3	0.08	0.10	0.04	3.23	0.01	0.01	0.05	0.26	0.59	99.1	116	363
HNO3+NO3-	0.26	0.30	0.16	2.73	0.01	0.03	0.16	0.87	2.12	93.6	0	343
K+	0.04	0.04	0.03	2.82	0.01	0.01	0.03	0.12	0.38	98.3	58	360
Mg++	0.053	0.065	0.028	3.343	0.005	0.005	0.030	0.180	0.540	98.3	78	360
NH3	0.24	0.18	0.19	2.20	0.02	0.05	0.20	0.57	1.11	99.1	16	363
NH3+NH4+	0.53	0.54	0.36	2.48	0.02	0.08	0.38	1.40	4.67	92.8	0	340
NH4+	0.29	0.44	0.10	6.07	0.01	0.01	0.16	0.97	3.56	92.8	60	340
NO2	0.46	0.61	0.31	2.31	0.03	0.08	0.30	1.23	6.64	99.9	0	366
NO3-	0.18	0.24	0.09	3.36	0.01	0.01	0.10	0.59	1.90	93.6	11	343
Na+	0.37	0.46	0.19	3.48	0.01	0.02	0.20	1.37	3.45	98.3	3	360
PM10	5.35	4.60	3.75	2.47	0.35	0.54	4.12	15.00	29.61	85.2	0	312
PM10-PM25	2.07	2.39	1.11	3.57	0.02	0.10	1.42	6.23	22.24	85.2	44	312
PM25	3.28	3.52	1.88	3.30	0.12	0.12	2.31	10.10	23.87	85.2	22	312
SO2	0.13	0.12	0.09	2.28	0.01	0.03	0.08	0.37	0.87	99.4	9	364
SO4--	0.35	0.35	0.22	2.78	0.01	0.04	0.23	1.05	2.13	99.1	1	363
SO4-- corr	0.32	0.34	0.19	3.14	-0.03	0.02	0.19	1.03	2.06	99.1	1	363

NO0008R Skreaadalen Norway

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.09	0.19	0.04	3.62	0.01	0.01	0.04	0.29	2.19	94.5	52	346
Cl-	0.41	0.77	0.08	7.05	0.01	0.01	0.07	1.89	6.61	93.4	124	342
HNO3	0.06	0.08	0.03	3.13	0.01	0.01	0.03	0.22	0.55	84.2	156	308
HNO3+NO3-	0.24	0.33	0.14	2.70	0.01	0.03	0.13	0.91	2.56	84.4	0	309
K+	0.04	0.04	0.03	2.40	0.01	0.01	0.03	0.11	0.62	94.5	36	346
Mg++	0.053	0.067	0.026	3.597	0.005	0.005	0.030	0.210	0.460	94.5	100	346
NH3	0.78	0.44	0.66	1.85	0.03	0.26	0.69	1.58	3.97	84.4	1	309
NH3+NH4+	1.01	0.67	0.85	1.78	0.08	0.36	0.84	2.13	5.44	84.4	0	309
NH4+	0.23	0.40	0.07	6.21	0.01	0.01	0.08	0.86	3.60	84.4	86	309
NO2	0.43	0.73	0.31	1.96	0.01	0.12	0.29	1.01	10.86	99.7	2	365
NO3-	0.18	0.28	0.10	3.15	0.01	0.01	0.09	0.77	2.43	84.4	12	309
Na+	0.36	0.45	0.16	4.49	0.01	0.01	0.20	1.30	3.15	94.5	21	346
SO2	0.09	0.12	0.07	2.16	0.01	0.02	0.06	0.31	1.15	94.5	17	346
SO4--	0.30	0.29	0.19	2.79	0.01	0.03	0.20	0.82	1.90	94.5	3	346
SO4-- corr	0.27	0.30	0.15	3.24	-0.01	0.02	0.15	0.80	1.89	94.5	3	346

NO0015R Tustervatn Norway

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.04	0.06	0.02	3.18	0.01	0.01	0.02	0.14	0.49	99.9	110	366
Cl-	0.37	0.72	0.07	7.15	0.01	0.01	0.06	1.57	6.02	99.7	156	365
HNO3	0.03	0.04	0.02	2.41	0.01	0.01	0.01	0.12	0.31	73.2	226	268
HNO3+NO3-	0.09	0.10	0.06	2.40	0.01	0.02	0.05	0.32	0.92	72.1	0	264
K+	0.02	0.03	0.01	2.54	0.01	0.01	0.02	0.07	0.24	99.9	113	366
Mg++	0.041	0.061	0.019	3.436	0.005	0.005	0.020	0.150	0.510	99.9	133	366
NH3	0.83	0.81	0.56	2.50	0.06	0.12	0.56	2.22	5.89	73.2	0	268
NH3+NH4+	0.93	0.75	0.70	2.14	0.13	0.21	0.72	2.32	4.41	72.6	0	266
NH4+	0.12	0.23	0.03	5.79	0.01	0.01	0.02	0.62	1.70	72.6	118	266
NO2	0.17	0.28	0.09	2.85	0.01	0.01	0.10	0.47	2.60	99.7	56	365
NO3-	0.06	0.08	0.03	3.28	0.01	0.01	0.03	0.20	0.80	72.1	52	264
Na+	0.30	0.43	0.12	4.54	0.01	0.01	0.16	1.08	3.28	99.9	26	366
SO2	0.09	0.13	0.06	2.12	0.01	0.03	0.06	0.33	1.08	99.9	12	366
SO4--	0.21	0.26	0.12	2.95	0.01	0.02	0.13	0.87	1.42	99.4	7	364
SO4-- corr	0.19	0.27	0.09	3.71	0.00	0.01	0.09	0.84	1.42	99.4	7	364

NO0039R Kaarvatn Norway

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.05	0.09	0.02	3.50	0.01	0.01	0.02	0.18	1.03	99.9	116	366
Cl-	0.21	0.50	0.04	5.66	0.01	0.01	0.01	1.31	4.29	99.4	191	364
HNO3	0.04	0.06	0.02	2.43	0.01	0.01	0.01	0.14	0.60	85.2	239	312
HNO3+NO3-	0.08	0.11	0.05	2.25	0.02	0.02	0.04	0.21	1.22	82.2	0	301
K+	0.02	0.02	0.01	2.66	0.01	0.01	0.02	0.07	0.18	99.7	136	365
Mg++	0.034	0.055	0.015	3.268	0.005	0.005	0.010	0.140	0.440	99.9	154	366
NH3	0.39	0.25	0.33	1.77	0.07	0.13	0.31	0.86	1.75	84.1	0	308
NH3+NH4+	0.48	0.41	0.38	1.94	0.02	0.16	0.37	1.35	2.72	82.7	0	303
NH4+	0.10	0.25	0.02	5.14	0.01	0.01	0.02	0.53	1.97	82.7	129	303
NO2	0.21	0.19	0.15	2.56	0.01	0.01	0.18	0.55	1.91	99.9	30	366
NO3-	0.04	0.07	0.02	3.03	0.01	0.01	0.03	0.12	0.86	82.4	72	302
Na+	0.21	0.33	0.08	4.29	0.01	0.01	0.10	0.87	2.71	99.9	32	366
SO2	0.07	0.05	0.06	1.66	0.01	0.03	0.06	0.15	0.45	99.4	2	364
SO4--	0.20	0.31	0.10	3.30	0.01	0.02	0.10	0.70	2.62	99.7	8	365
SO4-- corr	0.19	0.31	0.08	3.92	0.00	0.01	0.08	0.69	2.62	99.7	8	365

NO0042G Zeppelin, Spitsbergen Norway

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.04	0.04	0.02	2.94	0.01	0.01	0.02	0.12	0.32	96.4	95	353
Cl-	0.21	0.42	0.05	5.43	0.01	0.01	0.04	0.99	3.93	95.6	154	350
HNO3	0.03	0.03	0.02	1.96	0.01	0.01	0.01	0.11	0.17	81.6	240	299
HNO3+NO3-	0.08	0.08	0.05	2.28	0.01	0.02	0.05	0.27	0.53	79.2	0	290
K+	0.01	0.01	0.01	2.19	0.01	0.01	0.01	0.04	0.10	96.4	209	353
Mg++	0.038	0.050	0.020	3.167	0.005	0.005	0.020	0.143	0.320	96.4	114	353
NH3	0.20	0.12	0.17	1.75	0.03	0.07	0.17	0.46	0.93	81.9	2	300
NH3+NH4+	0.24	0.13	0.21	1.66	0.03	0.09	0.21	0.51	0.95	81.9	0	300
NH4+	0.04	0.04	0.02	3.51	0.01	0.01	0.02	0.14	0.27	81.9	126	300
NO3-	0.05	0.07	0.03	3.27	0.01	0.01	0.03	0.18	0.52	79.2	65	290
Na+	0.20	0.26	0.10	3.61	0.01	0.01	0.10	0.72	2.15	96.4	22	353
SO2	0.12	0.17	0.08	2.19	0.01	0.03	0.07	0.42	1.35	96.4	14	353
SO4--	0.16	0.18	0.10	3.13	0.01	0.01	0.11	0.50	1.42	96.4	14	353
SO4-- corr	0.15	0.17	0.07	4.11	-0.02	0.00	0.10	0.46	1.38	96.4	14	353

NO0055R Karasjok Norway

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.03	0.04	0.02	2.88	0.01	0.01	0.02	0.12	0.31	93.4	89	342
Cl-	0.18	0.33	0.05	5.40	0.01	0.01	0.03	0.82	2.78	92.6	161	339
HNO3	0.04	0.06	0.02	2.91	0.01	0.01	0.01	0.17	0.35	76.4	187	280
HNO3+NO3-	0.11	0.16	0.07	2.53	0.02	0.02	0.05	0.44	1.44	71.2	0	261
K+	0.02	0.03	0.02	2.46	0.01	0.01	0.02	0.07	0.20	93.4	90	342
Mg++	0.027	0.034	0.014	2.953	0.005	0.005	0.010	0.110	0.220	93.4	144	342
NH4+	0.15	0.21	0.05	5.27	0.01	0.01	0.07	0.59	1.32	72.6	78	266
NO2	0.19	0.16	0.14	2.45	0.01	0.01	0.15	0.53	1.15	99.9	26	366
NO3-	0.07	0.11	0.04	2.99	0.01	0.01	0.03	0.25	1.20	71.2	30	261
Na+	0.19	0.23	0.11	3.21	0.01	0.01	0.12	0.64	1.87	93.4	11	342
SO2	0.32	0.95	0.10	3.57	0.01	0.02	0.07	1.16	7.95	93.4	17	342
SO4--	0.25	0.29	0.14	3.01	0.01	0.02	0.15	0.90	1.87	92.0	4	337
SO4-- corr	0.23	0.29	0.12	3.64	-0.00	0.01	0.14	0.89	1.87	92.0	4	337

PL0002R Jarczew Poland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.81	0.56	0.66	1.90	0.10	0.24	0.65	1.91	4.11	98.3	0	360
NH3+NH4+	2.63	1.62	2.29	1.66	0.71	1.04	2.26	5.75	12.21	96.9	0	355
NH4+	1.63	1.04	1.37	1.82	0.17	0.51	1.43	3.39	8.18	96.9	0	355
NO2	2.83	1.35	2.58	1.53	0.80	1.30	2.60	5.13	11.30	97.5	0	357
NO3-	0.69	0.56	0.53	2.15	0.04	0.13	0.52	1.74	4.05	98.3	0	360
SO2	2.23	1.79	1.58	2.44	0.10	0.30	1.70	6.29	9.50	98.3	3	360
SO4--	1.38	0.72	1.17	1.87	0.10	0.41	1.25	2.71	5.44	98.3	7	360

PL0003R Sniezka Poland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.29	0.15	0.25	1.71	0.05	0.10	0.26	0.59	0.73	99.9	0	366
NH3+NH4+	0.73	0.39	0.62	1.93	0.03	0.21	0.69	1.49	2.14	99.9	4	366
NH4+	0.59	0.32	0.48	2.06	0.03	0.13	0.54	1.18	1.79	99.9	8	366
NO2	1.06	0.58	0.92	1.74	0.30	0.34	0.90	2.27	3.20	99.9	0	366
NO3-	0.22	0.11	0.19	1.73	0.03	0.07	0.20	0.44	0.56	99.9	0	366
SO2	1.09	0.60	0.93	1.80	0.20	0.30	0.90	2.20	3.10	99.9	0	366
SO4--	0.73	0.39	0.61	1.93	0.10	0.10	0.68	1.46	2.19	99.9	19	366

PL0004R Leba Poland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.55	0.45	0.42	2.08	0.04	0.11	0.43	1.28	3.72	99.1	0	363
NH3+NH4+	1.39	0.87	1.15	1.91	0.12	0.37	1.20	3.20	4.97	98.3	0	360
NH4+	0.97	0.73	0.73	2.25	0.03	0.16	0.81	2.44	4.72	99.9	3	366
NO2	1.68	1.30	1.36	1.88	0.20	0.50	1.35	4.30	10.70	99.4	0	364
NO3-	0.44	0.43	0.30	2.46	0.01	0.06	0.31	1.22	3.68	99.4	3	364
SO2	1.27	1.59	0.87	2.29	0.10	0.20	0.80	3.56	12.40	99.9	7	366
SO4--	1.20	0.68	0.99	2.00	0.10	0.25	1.10	2.54	3.96	99.9	10	366

PL0005R Diabla Gora Poland

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.71	0.69	0.47	2.52	0.08	0.11	0.45	2.21	4.85	98.8	0	362
NH3+NH4+	1.57	0.69	1.42	1.61	0.38	0.61	1.53	2.77	4.89	99.4	0	364
NO2	0.72	0.47	0.61	1.81	0.08	0.21	0.59	1.71	3.76	98.3	0	360
SO2	0.66	0.95	0.42	2.32	0.04	0.14	0.37	2.19	8.71	99.1	1	363
SO4--	0.66	0.50	0.52	2.00	0.05	0.17	0.52	1.78	3.59	99.1	0	363

RU0001R Janiskoski Russian Federation

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NH4+	0.24	0.34	0.13	3.38	0.01	0.01	0.17	0.76	3.15	93.9	0	344
NO3-	0.07	0.08	0.04	2.98	0.01	0.01	0.04	0.21	0.57	92.0	0	337
SO2	0.72	1.95	0.22	3.73	0.06	0.06	0.15	2.71	18.20	90.9	0	333
SO4--	0.51	0.65	0.28	3.09	0.03	0.03	0.29	1.49	4.40	92.0	0	337

RU0016R Shepeljovo Russian Federation

January 2004 – 7 September 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NH4+	0.40	0.24	0.32	2.24	0.01	0.06	0.36	0.94	1.41	55.7	0	204
NO3-	0.14	0.11	0.10	2.23	0.01	0.02	0.11	0.39	0.54	55.7	0	204
SO2	0.61	0.53	0.44	2.31	0.06	0.10	0.46	1.72	3.33	55.5	0	203
SO4--	0.43	0.36	0.32	2.17	0.03	0.09	0.33	1.15	2.81	55.7	0	204

RU0017R Dunai Russian Federation

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NH4+	0.31	0.33	0.15	4.03	0.01	0.01	0.16	0.95	1.71	80.0	0	293
NO3-	0.15	0.22	0.05	4.93	0.01	0.01	0.03	0.62	1.10	80.0	0	293
SO2	0.28	0.60	0.15	2.55	0.06	0.06	0.12	1.01	5.80	83.8	0	307
SO4--	0.33	0.37	0.18	3.22	0.03	0.03	0.17	1.30	1.70	80.0	0	293

SE0005R Bredkalen Sweden

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.06	0.16	0.04	2.49	0.00	0.00	0.04	0.17	2.72	99.4	25	364
NH3+NH4+	0.19	0.27	0.09	3.68	0.01	0.01	0.10	0.80	1.86	99.4	98	364
NO2	0.13	0.17	0.08	2.29	0.05	0.05	0.05	0.43	1.46	98.8	273	362
SO2	0.05	0.11	0.02	3.22	0.01	0.01	0.01	0.24	0.89	99.7	265	365
SO4--	0.20	0.24	0.12	2.90	0.00	0.02	0.11	0.67	1.56	99.7	5	365
SPM	0.48	0.61	0.40	1.48	0.38	0.38	0.38	0.38	6.05	99.7	353	365

SE0008R Hoburg Sweden

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	1.04	0.76	0.82	2.07	0.05	0.29	0.83	2.61	5.44	92.8	5	340
SO2	0.55	0.72	0.35	2.70	0.01	0.08	0.38	1.42	7.94	99.9	8	366
SO4--	0.58	0.43	0.45	2.25	0.00	0.08	0.46	1.36	2.65	99.9	8	366
SPM	1.67	2.99	0.73	3.03	0.38	0.38	0.38	7.20	21.03	94.5	247	346

SE0011R Vavihill Sweden

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.45	0.39	0.32	2.35	0.00	0.07	0.33	1.14	4.11	99.7	1	365
NH3+NH4+	0.88	0.65	0.65	2.38	0.01	0.15	0.72	2.21	5.12	99.9	4	366
NO2	1.48	1.26	1.17	1.93	0.30	0.46	1.09	3.93	9.76	99.4	0	364
PM10	13.74	8.61	10.78	2.26	0.75	3.00	12.00	29.80	90.00	61.0	267	5359
PM25	9.77	6.62	7.11	2.58	0.75	0.75	8.50	23.00	50.30	56.9	565	4998
SO2	0.37	0.52	0.20	3.23	0.01	0.01	0.20	1.36	3.77	99.7	21	365
SO4--	0.54	0.38	0.43	2.07	0.00	0.09	0.47	1.25	2.33	99.9	6	366
SPM	1.28	1.81	0.69	2.67	0.38	0.38	0.38	5.19	10.67	99.4	253	364

SE0012R Aspvreten Sweden

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
PM10	10.51	7.41	8.26	2.13	0.75	3.10	8.50	25.60	68.30	97.5	383	8568
PM25	7.05	6.74	4.62	2.76	0.75	0.75	5.60	20.20	76.30	84.3	1403	7405

SE0014R Råö Sweden

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3+NO3-	0.49	0.47	0.34	2.48	0.01	0.07	0.35	1.32	3.69	80.1	0	293
NH3+NH4+	0.67	0.57	0.46	2.63	0.01	0.10	0.47	1.82	4.19	94.2	6	345
NO2	1.45	1.01	1.20	1.82	0.36	0.47	1.13	3.28	7.10	98.6	0	361
SO2	0.45	0.41	0.30	2.95	0.01	0.01	0.35	1.25	2.72	80.1	16	293
SO4--	0.67	0.49	0.52	2.24	0.00	0.11	0.58	1.47	5.00	94.7	2	347
SPM	0.93	1.42	0.54	2.30	0.38	0.38	0.38	4.49	7.88	99.4	300	364

SE0035R Vindeln Sweden

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
PM10	7.83	6.12	5.75	2.43	0.75	0.75	6.50	18.82	107.40	94.2	963	8275
PM25*	5.26	4.34	3.30	2.96	0.75	0.75	4.70	13.70	24.90	19.1	537	1675

* January-April

SI0008R Iskrba Slovenia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
Ca++	0.12	0.14	0.05	4.31	0.00	0.00	0.07	0.39	1.17	98.3	54	360
Cl-	0.03	0.05	0.01	3.73	0.00	0.00	0.01	0.13	0.37	98.3	170	360
HNO3+NO3-	0.27	0.23	0.19	2.40	0.01	0.04	0.21	0.67	1.74	98.3	0	360
K+	0.10	0.09	0.07	2.16	0.01	0.02	0.07	0.24	0.67	66.4	4	243
Mg++	0.022	0.024	0.012	3.198	0.002	0.002	0.014	0.069	0.161	98.3	91	360
NH3+NH4+	0.85	0.61	0.65	2.27	0.02	0.16	0.71	2.11	4.10	98.3	0	360
NO2	0.77	0.47	0.63	1.89	0.03	0.26	0.61	1.83	2.45	48.5	1	178
Na+	0.07	0.09	0.04	3.51	0.00	0.00	0.04	0.29	0.52	98.3	32	360
PM10*	14.55	8.47	12.12	1.90	2.90	3.76	12.59	30.95	32.98	16.3	0	60
PM25**	12.81	7.41	10.86	1.80	2.00	4.51	10.89	29.97	33.74	32.1	0	118
SO2	0.46	0.56	0.23	3.68	0.00	0.02	0.27	1.47	5.22	98.3	3	360
SO4--	0.69	0.57	0.47	2.66	0.01	0.08	0.52	1.87	3.27	98.3	0	360
SO4-- corr	0.68	0.57	0.46	2.67	0.01	0.08	0.52	1.87	3.26	98.3	0	360

* November – December
** September - December

SK0002R Chopok Slovakia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	0.97	0.52	0.85	1.70	0.00	0.30	0.90	1.90	3.90	97.5	0	357
SO2	0.45	0.27	0.39	1.68	0.10	0.20	0.40	0.90	2.20	97.5	0	357
SO4--	0.41	0.35	0.30	2.22	0.02	0.07	0.30	1.10	2.82	97.5	0	357
SPM	7.54	4.09	6.32	1.94	0.50	1.75	6.24	16.11	20.43	99.7	1	53

SK0004R Stara Lesna Slovakia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
PM10	13.74	7.44	12.46	1.54	3.18	6.51	12.66	25.80	52.08	89.9	0	47

SK0005R Liesek Slovakia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3	0.04	0.04	0.03	1.95	0.01	0.01	0.03	0.10	0.55	99.1	0	363
NO2	1.93	1.07	1.70	1.63	0.32	0.81	1.64	3.90	8.01	97.7	0	358
NO3-	0.46	0.26	0.39	1.85	0.02	0.15	0.38	0.98	1.54	99.4	3	364
PM10	17.94	6.53	16.83	1.42	4.44	10.27	16.30	31.68	43.26	98.6	0	52
SO2	1.96	2.25	1.23	2.53	0.13	0.31	1.09	6.39	13.81	99.4	0	364
SO4--	1.02	0.57	0.88	1.75	0.10	0.35	0.87	2.24	3.82	99.4	0	364

SK0006R Starina Slovakia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3	0.05	0.06	0.03	2.21	0.01	0.01	0.03	0.14	0.60	96.6	0	354
NO2	1.61	0.91	1.42	1.67	0.07	0.68	1.38	3.26	7.31	97.2	0	356
NO3-	0.36	0.31	0.26	2.51	0.01	0.06	0.28	1.02	1.84	96.4	15	353
PM10	16.36	5.87	15.24	1.45	5.30	7.26	15.52	28.30	34.38	97.5	0	51
SO2	1.30	1.27	0.92	2.29	0.10	0.20	0.90	3.92	9.90	96.6	0	354
SO4--	1.11	0.73	0.90	2.01	0.04	0.28	0.98	2.39	6.56	96.4	0	353

SK0007R Topoliniky Slovakia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3	0.06	0.04	0.04	2.05	0.01	0.01	0.05	0.13	0.53	91.4	0	335
NO2	2.76	1.24	2.53	1.51	0.80	1.30	2.50	5.20	8.10	99.6	0	365
NO3-	0.96	0.66	0.76	2.02	0.10	0.23	0.78	2.32	3.90	91.2	0	334
SO2	1.94	2.52	1.26	2.36	0.14	0.36	1.11	6.61	26.83	91.2	0	334
SO4--	1.23	0.84	1.02	1.83	0.22	0.36	1.04	2.99	6.94	91.4	0	335
SPM	20.06	7.79	18.04	1.58	4.65	6.41	19.67	35.15	36.24	100.5	0	53

TR0001R Cubuk II Turkey

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
HNO3	0.09	0.08	0.07	1.88	0.01	0.03	0.07	0.21	1.02	91.5	100	335
HNO3+NO3-	0.25	0.22	0.20	1.98	-0.05	0.07	0.20	0.60	1.62	91.8	4	336
NH3	0.34	0.19	0.27	2.27	0.00	0.06	0.31	0.66	0.89	91.5	6	335
NH3+NH4+	0.70	0.28	0.63	1.58	0.13	0.27	0.69	1.16	1.49	89.9	4	329
NH4+	0.38	0.19	0.33	1.74	0.07	0.12	0.36	0.74	1.08	88.3	5	323
NO2	1.09	1.05	0.76	2.31	0.08	0.22	0.69	3.38	6.29	91.0	3	333
NO3-	0.15	0.20	0.08	3.18	0.01	0.01	0.08	0.47	1.57	91.5	30	335
SO2	1.09	2.93	0.36	4.44	0.01	0.04	0.43	3.66	36.33	91.5	15	335
SO4--	0.63	0.43	0.48	2.45	0.01	0.08	0.56	1.50	2.46	91.5	2	335

YU0005R Kamenicki Vis Yugoslavia

January 2004 - December 2004

Component	Arit mean	Arit sd	Geom mean	Geom sd	Min	5%	50%	95%	Max	% anal	Num bel	Num sampl
NO2	2.64	0.91	2.50	1.41	1.00	1.40	2.60	4.30	7.00	94.9	0	348
SO2	2.82	1.95	2.29	1.88	1.25	1.25	2.60	6.70	12.80	96.3	170	353

Annex 4

Overview of sampling and analytical methods 2004

Country: **Austria**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Ion chromatography
Magnesium	All	Wet-only	Daily	Ion chromatography
Sodium	All	Wet-only	Daily	Ion chromatography
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Ion chromatography
Potassium	All	Wet-only	Daily	Ion chromatography
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	Instrumental: UV-fluorescence	Hourly	UV-fluorescence
Sulphur dioxide	AT02	KOH-impregnated Whatman 40 filters, 21.6 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	Instrumental: Chemiluminescence	Daily	
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	AT02	Teflon filter, PALL Zefluor 2 µm, 47 mm diameter, 21.6 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	All	High Volume Sampler, glass fibre filters with organic binder, 720 m^3/day, EN 12341	Daily	Micro balance
$PM_{2.5}$	AT02	High Volume Sampler, glass fibre filters with organic binder, 720 m^3/day, EN 12341	Daily	Micro balance
PM_1	AT02	High Volume Sampler, glass fibre filters with organic binder, 720 m^3/day, EN 12341	Daily	Micro balance
Suspended particulate matter				
Sum of nitric acid and nitrate	AT02	Aerosol as for sulphate, KOH impregnated Whatman 40 filters, 21.6 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	AT02	Aerosol as for sulphate, citric acid impregnated Whatman 40 filters, 21.6 m^3/day	Daily	Ion chromatography
Acidity				
Heavy metals (Pb)	All	PM_{10}	Daily (irregular)	GF-AAS
Heavy metals (Cd)	AT02, AT05	PM_{10}	Daily (irregular)	GF-AAS
Heavy metals (As, Ni)	AT02	PM_{10}	Daily (irregular)	GF-AAS
Heavy metals (Pb, Cd, As, Ni)	AT02	$PM_{2.5}$	Daily (irregular)	GF-AAS
Heavy metals (Pb, Cd, As, Ni)	AT02	PM_1	Daily (irregular)	GF-AAS

Country: **Belgium**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount		Instrumental: Rain gauge	Half hourly	Pulses counter
Precipitation amount, official gauge				
Sulphate				
Nitrate				
Ammonium				
Magnesium				
Sodium				
Chloride				
Calcium				
Potassium				
Conductivity				
pH				
Acidity				
Air				
Sulphur dioxide		Instrumental: UV-fluorescence	Half hourly	UV-fluorescence
Sulphur dioxide				
Nitrogen dioxide		Instrumental: Chemiluminescence	Half hourly	Chemiluminescence
Nitric acid				
Ammonia				
Ozone		Instrumental: UV monitor	Half hourly	UV absorption
Sulphate				
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}		Instrumental: Beta absorption	Two-hourly	Beta absorption
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				
Heavy metals (Pb, Cd)				
Heavy metals (As, Ni)				

Country: **Croatia**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Daily	Ion chromatography
Nitrate	All	Bulk	Daily	Ion chromatography
Ammonium	All	Bulk	Daily	Ion chromatography
Magnesium	All	Bulk	Daily	Ion chromatography
Sodium	All	Bulk	Daily	Ion chromatography
Chloride	All	Bulk	Daily	Ion chromatography
Calcium	All	Bulk	Daily	Ion chromatography
Potassium	All	Bulk	Daily	Ion chromatography
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	Absorbing solution TCM, 1.6–2.5 m^3/day	Daily	Pararosanilin method
Nitrogen dioxide	All	Absorbing solution Trietanolamin, 1.6–2.5 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone				
Sulphate				
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Czech Republic**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount, official gauge	All	Meteorological Station	Daily	Automatically gauge
Fluoride	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	Ion Chromatography
Sulphate	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	Ion chromatography
Nitrate	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	Ion chromatography
Ammonium	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	Spectrophotometric, Indophenol method, SFA, FIA
Magnesium	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	F-AAS
Sodium	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	F-AAS
Chloride	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	Ion chromatography
Calcium	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	F-AAS
Potassium	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	F-AAS
Conductivity	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	Conductivity electrode
pH	All	Wet-only (weekly), bulk (daily) at CZ03	Weekly, daily at CZ03	pH electrode
Trace metals:(Pb, Cd, Ni)	All	Bulk (weekly)	weekly	GF-AAS
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, 20 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	Absorbing solution NaOH and guajacol, 0.72 m^3/day	Daily	Spectrophotometric, modified Jacobs - Hochheiser method
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 20 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	All	Filter 47 mm, 55 m^3/day	Every 2nd day	Gravimetric
$PM_{2.5}$	All	Filter 47 mm, 55 m^3/day	Every 2nd day	Gravimetric
Heavy metals (Pb, Cd, Ni)	All	PM_{10}	Every 2nd day	GF-AAS
Suspended particulate matter				
Sum of nitric acid and nitrate	All	KOH-impregnated Whatman 40 filter, 20 m^3/day + Whatman 40 filter, 20 m^3/day	Daily	Ion Chromatography
Sum of ammonia and ammonium	All	Citric acid impregnated Whatman 40 filter, 20 m^3/day + Whatman filter, 20 m^3/day	Daily	Spectrophotometric, Indophenol method, SFA

Country: **Denmark**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	DK05, DK08, DK22	Wet-only	Two-weekly	
Precipitation amount, official gauge				
Sulphate	DK05, DK08, DK22	Wet-only	Two-weekly	Ion chromatography
Nitrate	DK05, DK08, DK22	Wet-only	Two-weekly	Ion chromatography
Ammonium	DK05, DK08, DK22	Wet-only	Two-weekly	ISO 11732 CFA (continuously flow analysis) and spectrophotometric detection
Magnesium	DK05, DK08, DK22	Wet-only	Two-weekly	Atomic absorption method
Sodium	DK05, DK08, DK22	Wet-only	Two-weekly	Atomic emission method
Chloride	DK05, DK08, DK22	Wet-only	Two-weekly	Ion chromatography
Calcium	DK05, DK08, DK22	Wet-only	Two-weekly	Atomic absorption method
Potassium	DK05, DK08, DK22	Wet-only	Two-weekly	Atomic emission method
Conductivity	DK05, DK08, DK22	Wet-only	Two-weekly	Conductivity meter
pH	DK05, DK08, DK22	Wet-only	Two-weekly	pH meter
Acidity				
Air				
Sulphur dioxide	DK03, DK08	KOH-impregnated Whatman 41 filters, 58 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	DK05	Monitor	Hourly	Chemiluminescence
Nitrogen dioxide	DK08	KI-method (glass sinter), 0.7 m^3/day	Daily	Spectrophotometric, EMEP manual (4.11)
Nitric acid				
Ammonia				
Ozone	DK05, DK31,DK41	UV-monitor	Hourly	UV-absorption
Sulphate	DK03, DK08	Millipore RAWP 1.2 μm, 58 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium	DK03, DK08	Millipore RAWP 1.2 μm, 58 m^3/day	Daily	Atomic absorption method
Heavy metals (Cr, Mn, Fe, Ni, Cu, Zn, As, Cd, Pb)	DK03, DK08	Millipore RAWP 1.2 μm, 58 m^3/day	Daily	Proton Induced X-ray Emission (PIXE)
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	DK05	SM200	Daily	Gravimetric
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	DK03, DK08	Aerosol filter as for sulphate + KOH-impregnated Whatman 41, 58 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	DK03, DK08	Aerosol filter as for sulphate + Oxalic acid impregnated Whatman 41, 58 m^3/day	Daily	ISO 11732 CFA (continuously flow analysis) and spectrophotometric detection
Acidity				

DK03: Tange; DK05: Keldsnor; DK08: Anholt; DK22: Sepstrup Sande; DK31: Ulborg; DK41: Lille Valby

Country: **Estonia**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Weekly	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Weekly	Ion chromatography
Nitrate	All	Bulk	Weekly	Ion chromatography
Ammonium	All	Bulk	Weekly	Spectrophotometric, Indophenol method
Magnesium	All	Bulk	Weekly	Atomic absorption method
Sodium	All	Bulk	Weekly	Atomic emission method, addition of caesium
Chloride	All	Bulk	Weekly	Ion chromatography
Calcium	All	Bulk	Weekly	Atomic absorption method, addition of lanthanum
Potassium	All	Bulk	Weekly	Atomic emission method, addition of caesium
Conductivity	All	Bulk	Weekly	Conductivity meter
pH	All	Bulk	Weekly	pH meter
Acidity				
Air				
Sulphur dioxide	EE09	Instrumental: UV fluorescence	Daily	UV fluorescence
Sulphur dioxide	EE11	Instrumental: UV fluorescence	Daily	UV fluorescence
Nitrogen dioxide	EE09	Instrumental: Chemiluminescence	Daily	Chemiluminescence
Nitrogen dioxide	EE11	Instrumental: Chemiluminescence	Daily	Chemiluminescence
Nitric acid				
Ammonia				
Ozone	All	UV monitor	Hourly	UV absorption
Sulphate	EE09	Whatman 40 filter, 4-5 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Finland**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	NILU bulk sampler	Weekly	
Precipitation amount, official gauge	FI09		Daily	
Sulphate	All	NILU bulk sampler	Weekly	Ion chromatography
Nitrate	All	NILU bulk sampler	Weekly	Ion chromatography
Ammonium	All	NILU bulk sampler	Weekly	Ion chromatography
Magnesium	All	NILU bulk sampler	Weekly	Ion chromatography
Sodium	All	NILU bulk sampler	Weekly	Ion chromatography
Chloride	All	NILU bulk sampler	Weekly	Ion chromatography
Calcium	All	NILU bulk sampler	Weekly	Ion chromatography
Potassium	All	NILU bulk sampler	Weekly	Ion chromatography
Conductivity	All	NILU bulk sampler	Weekly	Conductivity meter
pH	All	NILU bulk sampler	Weekly	pH meter
Acidity				
Air				
Sulphur dioxide	All	NaOH-impregnated Whatman 40 filters, 24 m^3/day	Daily/Weekly[1)]	Ion chromatography
Nitrogen dioxide	All	Instrumental: Chemiluminescence	Hourly	Chemiluminescence
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 24 m^3/day	Daily/Weekly[1)]	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	FI09, FI17, FI22, FI37	Whatman 40 + NaOH impregnated Whatman 40 filter, 24 m^3/day	Daily/Weekly[1)]	Ion chromatography
Sum of ammonia and ammonium	FI09, FI17, FI22, FI37	Oxalic acid impregnated Whatman 40 filter, 24 m^3/day	Daily/Weekly[1)]	Ion chromatography
Acidity				

1) Daily: FI09 and FI17; Weekly: FI22 and FI37

Country: **France**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge	All	Bulk	Daily	
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Spectrophotometric, Flow injection analysis: Jan. to Feb. Ion chromatography: Mar. to Dec.
Magnesium	All	Wet-only	Daily	Ion chromatography
Sodium	All	Wet-only	Daily	Ion chromatography
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Ion chromatography
Potassium	All	Wet-only	Daily	Ion chromatography
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	Absorbing solution H_2O_2, 2.5 m^3/day	Daily	Ion chromatography
Nitrogen dioxide				
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 2.5 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Germany**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	By volume
Precipitation amount, official gauge				
Sulphate	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Ion chromatography
Nitrate	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Ion chromatography
Ammonium	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Spectrophotometric, Flow injection analysis
Magnesium	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Atomic absorption method, addition of lanthanum
Sodium	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Atomic absorption method, addition of caesium
Chloride	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Ion chromatography
Calcium	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Atomic absorption method, addition of lanthanum
Potassium	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Atomic absorption method, addition of caesium
Conductivity	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	Conductivity meter
pH	All	Bulk (daily) at DE02/DE04, wet-only (weekly) at all	Daily / weekly	pH meter
Acidity				
Air				
Sulphur dioxide	DE02, DE04, DE28, DE30, DE41	KOH-impregnated Whatman 40 filter, 25 m^3/day (Filterpack)	Daily	Ion chromatography
Nitrogen dioxide	All	NaJ-impregnated glass sinters, 0.7 m^3/day	Daily	Flow injection analysis
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Halfhourly	UV-absorption
Sulphate	DE02, DE04, DE28, DE30, DE41	Aerosol filter as for sulphate (Filterpack	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	All	Digitel High Volume Sampler DHA 80, round aerosol filters ø15 cm, Machery Nagel MN 85/90	Daily	Gravimetric by weight
$PM_{2.5}$	DE02, DE04, DE05	Digitel High Volume Sampler DHA 80, round aerosol filters ø15 cm, Machery Nagel MN 85/90	Daily	Gravimetric by weight
Suspended particulate matter				
Sum of nitric acid and nitrate	DE02, DE04, DE28, DE30, DE41	Aerosol filter as for sulphate + KOH impregnated filter as for SO_2, 25 m^3/day (Filterpack)	Daily	Ion chromatography
Sum of ammonia and ammonium	DE02, DE04, DE28, DE30, DE41	Aerosol filter as for sulphate + oxalic acid impregnated filter, 25 m^3/day (Filterpack)	Daily	Flow injection analysis
Acidity				

Country: **Greece**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount				
Precipitation amount, official gauge				
Sulphate				
Nitrate				
Ammonium				
Magnesium				
Sodium				
Chloride				
Calcium				
Potassium				
Conductivity				
pH				
Acidity				
Air				
Sulphur dioxide	GR01	Instrumental UV-fluorescence	Hourly	UV-fluorescence
Nitrogen dioxide	GR01	Instrumental Chemiluminescence	Hourly	Chemiluminescence
Nitric acid				
Ammonia				
Ozone	GR01	UV-monitor	Hourly	UV-absorption
Sulphate				
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Hungary**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Spectrophotometric, Indophenol method
Magnesium	All	Wet-only	Daily	Atomic absorption method
Sodium	All	Wet-only	Daily	Atomic absorption method
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Atomic absorption method
Potassium	All	Wet-only	Daily	Atomic absorption method
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, ~21 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	Iodide method (impregnated glass sinter), ~0.8 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid	All	Teflon filter, Millipore Fluoropore, 1 μm, ~21 m^3/day	Daily	Ion chromatography
Ammonia	All	Alkaline impregnated Whatman 40 filter, ~21 m^3/day	Daily	Spectrophotometric, Indophenol method
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Teflon filter, Millipore Fluoropore, 1 μm, ~21 m^3/day	Daily	Ion chromatography
Nitrate	All	Teflon filter, Millipore Fluoropore, 1 μm, ~21 m^3/day	Daily	Ion chromatography
Ammonium	All	Teflon filter, Millipore Fluoropore, 1 μm, ~21 m^3/day	Daily	Spectrophotometric, Indophenol method
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	All	Teflon filter, Millipore Fluoropore, 1 μm, ~21 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All	Alkaline impregnated Whatman 40 filter, ~21 m^3/day + Teflon filter, Millipore Fluoropore, 1 μm, ~21 m^3/day	Daily	Spectrophotometric, Indophenol method
Acidity				

Country: **Iceland**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Daily	ICP-AES
Nitrate				
Ammonium				
Magnesium				
Sodium	All	Bulk	Daily	ICP-AES
Chloride				
Calcium				
Potassium				
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide				
Nitrogen dioxide				
Nitric acid				
Ammonia				
Ozone				
Sulphate	All	Whatman 40 filter, 30 m^3/day	Daily	ICP-AES
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Ireland: IE01 (lab.: Met Eireann)**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	IE01	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	IE01	Bulk	Daily	Ion chromatography
Nitrate	IE01	Bulk	Daily	Ion chromatography
Ammonium	IE01	Bulk	Daily	Ion chromatography
Magnesium	IE01	Bulk	Daily	Ion chromatography
Sodium	IE01	Bulk	Daily	Ion chromatography
Chloride	IE01	Bulk	Daily	Ion chromatography
Calcium	IE01	Bulk	Daily	Ion chromatography
Potassium	IE01	Bulk	Daily	Ion chromatography
Conductivity	IE01	Bulk	Daily	Conductivity meter
pH	IE01	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	IE01	KOH-impregnated Whatman 40 filter, 15-20 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	IE01	NaI method (glass sinter) 0.7 m^3/day	Daily	Spectrophotometric, EMEP Manual 4.11
Nitric acid				
Ammonia				
Ozone				
Sulphate	IE01	Whatman 40 filter, 15-20 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Ireland: IE02, IE03, IE04 (lab.: ESB)**	Main components and ozone - EMEP		Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Ion chromatography
Magnesium	All	Wet-only	Daily	Ion chromatography
Sodium	All	Wet-only	Daily	Ion chromatography
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Ion chromatography
Potassium	All	Wet-only	Daily	Ion chromatography
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide				
Nitrogen dioxide				
Nitric acid				
Ammonia				
Ozone				
Sulphate	All	Gelman GN-6 Metricel filter, 20 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Italy: IT01 (lab.: CNR)**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	IT01	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	IT01	Wet-only	Daily	Ion chromatography
Nitrate	IT01	Wet-only	Daily	Ion chromatography
Ammonium	IT01	Wet-only	Daily	Ion chromatography
Magnesium	IT01	Wet-only	Daily	Ion chromatography
Sodium	IT01	Wet-only	Daily	Ion chromatography
Chloride	IT01	Wet-only	Daily	Ion chromatography
Calcium	IT01	Wet-only	Daily	Ion chromatography
Potassium	IT01	Wet-only	Daily	Ion chromatography
Conductivity	IT01	Wet-only	Daily	Conductivity meter
pH	IT01	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	IT01	Diffusion tubes NaCl and Na2CO3 + glycerine, 17 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	IT01	Instrumental: Chemiluminescence	Daily	Chemiluminescence
Nitric acid	IT01	Diffusion tubes NaCl, 17 m^3/day	Daily	Ion chromatography
Ammonia	IT01	Diffusion tubes H3PO3, 17 m^3/day	Daily	Ion chromatography
Ozone	IT01	UV-monitor	Hourly	UV-absorption
Sulphate	IT01	Nylasorb filter, 17 m^3/day	Daily	Ion chromatography
Nitrate	IT01	Nylasorb filter, 17 m^3/day	Daily	Ion chromatography
Ammonium	IT01	Phosphorous acid impregnated filter, 17 m^3/day	Daily	Ion chromatography
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	IT01	Beta gauge monitor 24 m^3/day	Daily	Beta gauge monitor
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Italy, IT04 (lab.: JRC)**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	IT04	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	IT04	Wet-only	Daily	Ion chromatography
Nitrate	IT04	Wet-only	Daily	Ion chromatography
Ammonium	IT04	Wet-only	Daily	Ion chromatography
Magnesium				
Sodium				
Chloride				
Calcium				
Potassium				
Conductivity				
pH	IT04	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	IT04	Instrumental: UV-fluorescence	Daily	UV-fluorescence
Nitrogen dioxide	IT04	Instrumental: Chemiluminescence	Daily	Chemiluminescence
Nitric acid				
Ammonia				
Ozone	IT04	UV-monitor	Hourly	UV-absorption
Sulphate	IT04	Whatman quartz fibre filter QFF, 55 m^3/day	Daily	Ion chromatography
Nitrate	IT04	Whatman quartz fibre filter QFF, 55 m^3/day	Daily	Ion chromatography
Ammonium	IT04	Whatman quartz fibre filter QFF, 55 m^3/day	Daily	Ion chromatography
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}		Whatman quartz fibre filter QFF, 55 m^3/day	Daily	Weighing at 50% RH
$PM_{2.5}$		Whatman quartz fibre filter QFF, 55 m^3/day	Daily	Weighing at 50% RH
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity	IT04	Whatman quartz fibre filter QFF, 55 m^3/day	Daily	pH meter

Country: **Latvia**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only and bulk	Daily	Gravimetric
Precipitation amount, official gauge	All	Meteorological station	Daily	Gauge, Tretjakov type
Sulphate	All	LV16: Bulk, LV10: Wet-only	Daily	Ion chromatography
Nitrate	All	LV16: Bulk, LV10: Wet-only	Daily	Ion chromatography
Ammonium	All	LV16: Bulk, LV10: Wet-only	Daily	Spectrophotometric, Indophenol method
Magnesium	All	LV16: Bulk, LV10: Wet-only	Daily	Atomic absorption method
Sodium	All	LV16: Bulk, LV10: Wet-only	Daily	Atomic emission method
Chloride	All	LV16: Bulk, LV10: Wet-only	Daily	Ion chromatography
Calcium	All	LV16: Bulk, LV10: Wet-only	Daily	Atomic absorption method
Potassium	All	LV16: Bulk, LV10: Wet-only	Daily	Atomic emission method
Conductivity	All	LV16: Bulk, LV10: Wet-only	Daily	Conductivity meter
pH	All	LV16: Bulk, LV10: Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 41 filter, 14-20 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	Absorbing KI solution in absorbing tubes with glass granules, 0.2-0.4 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 41 filter, 14-20 m^3/day	Daily	Ion chromatography
Nitrate	All	Whatman 41 filter, 14-20 m^3/day	Daily	Ion chromatography
Ammonium	All	Whatman 41 filter, 14-20 m^3/day	Daily	Spectrophotometric, Indophenol method
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	All	KOH-impregnated Whatman 41 filter, 14-20 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All	Oxalic acid impregnated Whatman 41 filter, 14-20 m^3/day	Daily	Spectrophotometric, Indophenol method
Acidity				

Country: **Lithuania**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Spectrophotometric, Indophenol method
Magnesium				
Sodium	All	Wet-only	Daily	Atomic emission method
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Atomic absorption method
Potassium	All	Wet-only	Daily	Atomic emission method
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, 24 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	KI-method (glass sinter), 0.4-0.7 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 24 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	All	KOH impregnated Whatman 40 filter, 16-17 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All	Oxalic acid impregnated Whatman 40 filter, 16-17 m^3/day	Daily	Spectrophotometric, Indophenol method
Acidity				

Country: **The Netherlands**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge	All	Bulk	4 weekly	
Sulphate	NL0009	Wet-only	Daily [1]	Ion chromatography
Nitrate	NL0009	Wet-only	Daily [1]	Ion chromatography
Ammonium	NL0009	Wet-only	Daily [1]	CFA[2]
Magnesium	NL0009	Wet-only	Daily [1]	ICP/AES[3]
Sodium	NL0009	Wet-only	Daily [1]	ICP/AES
Chloride	NL0009	Wet-only	Daily [1]	Ion chromatography
Calcium	NL0009	Wet-only	Daily [1]	ICP/AES
Potassium	NL0009	Wet-only	Daily [1]	ICP/AES
Conductivity	NL0009	Wet-only	Daily [1]	Conductivity meter
pH	NL0009	Wet-only	Daily [1]	pH meter
Acidity	NL0009	Wet-only	Daily [1]	Titration
Air				
Sulphur dioxide	All	Instrumental: UV-fluorescence	Hourly	UV-fluorescence
Nitrogen dioxide	All	Instrumental: Chemiluminescence	Hourly	Chemiluminescence
Nitric acid				
Ammonia	NL10	Absorption in $NaHSO_4$, membrane separation, conductivity measurement	Hourly	Conductivity
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 42 filter, 2.5 m^3/day, filter mounted behind denuder	Daily	Ion chromatography
Nitrate	All	Whatman 42 filter, 2.5 m^3/day, filter mounted behind denuder	Daily	Ion chromatography
Ammonium	All	Whatman 42 filter, 2.5 m^3/day, filter mounted behind denuder	Daily	CFA[2]
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride	All	Whatman 42 filter, 2.5 m^3/day, filter mounted behind denuder	Daily	CFA[2]
PM_{10}	All[4]	Instrumental: beta absorption	Hourly	Beta absorption
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

[1] precipitation measurements on daily basis are only carried out on station NL0009; On both EMEP stations (NL0009 and NL0010) precipitation is carried out on a 4 weekly basis.
[2] continuous flow analysis
[3] inductively coupled plasma/atomic emission spectrometry
[4] measurements of PM_{10} at NL10 since 02-04-2003

Country: **Norway**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	NILU bulk sampler	Daily	By volume
Precipitation amount, official gauge				
Sulphate	All	NILU bulk sampler	Daily	Ion chromatography
Nitrate	All	NILU bulk sampler	Daily	Ion chromatography
Ammonium	All	NILU bulk sampler	Daily	Ion chromatography
Magnesium	All	NILU bulk sampler	Daily	Ion chromatography
Sodium	All	NILU bulk sampler	Daily	Ion chromatography
Chloride	All	NILU bulk sampler	Daily	Ion chromatography
Calcium	All	NILU bulk sampler	Daily	Ion chromatography
Potassium	All	NILU bulk sampler	Daily	Ion chromatography
Conductivity	All	NILU bulk sampler	Daily	Conductivity meter
pH	All	NILU bulk sampler	Daily	pH meter; potentiometric, glass electrode
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter 25 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	NaI-impregnated glass sinters, 0.7 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Teflon filter, Gelman Zefluor 2 µm, 25 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium	All	Teflon filter, Gelman Zefluor 2 µm, 25 m^3/day	Daily	Ion chromatography
Calcium	All	Teflon filter, Gelman Zefluor 2 µm, 25 m^3/day	Daily	Ion chromatography
Magnesium	All	Teflon filter, Gelman Zefluor 2 µm, 25 m^3/day	Daily	Ion chromatography
Potassium	All	Teflon filter, Gelman Zefluor 2 µm, 25 m^3/day	Daily	Ion chromatography
Chloride	All	Teflon filter, Gelman Zefluor 2 µm, 25 m^3/day	Daily	Ion chromatography
PM_{10}	NO01	Dichotomous sampler	Daily	by weight
$PM_{2.5}$	NO01	Dichotomous sampler	Daily	by weight
Suspended particulate matter				
Sum of nitric acid and nitrate	All	Aerosol filter as for sulphate + KOH impregnated filter as for SO_2, 25 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All	Aerosol filter as for sulphate + oxalic acid impregnated filter, 25 m^3/day	Daily	Spectrophotometric, Indophenol method and IC
Acidity				

Country: **Poland: PL02, PL03, PL04 (lab. IMWM)**	Main components and ozone - EMEP		Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Daily	Ion chromatography
Nitrate	All	Bulk	Daily	Ion chromatography
Ammonium	All	Bulk	Daily	Spectrophotometric, Chloramin T
Magnesium	All	Bulk	Daily	Atomic absorption method
Sodium	All	Bulk	Daily	Atomic absorption method
Chloride	All	Bulk	Daily	Ion chromatography
Calcium	All	Bulk	Daily	Atomic absorption method
Potassium	All	Bulk	Daily	Atomic absorption method
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, 3.5-4 m^3/day	Daily	Thorin
Nitrogen dioxide	All	Absorbing solution TGS, 0.7 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 3.5-4 m^3/day	Daily	Thorin
Nitrate	All	Whatman 40 filter, 3.5-4 m^3/day	Daily	Spectrophotometric, Griess after hydrazine reduction
Ammonium	All	Whatman 40 filter, 3.5-4 m^3/day	Daily	Spectrophotometric, Chloramin T
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	All	NaF impregnated Whatman 40 filter, 3.5-4 m^3/day	Daily	Spectrophotometric, Griess after hydrazine reduction
Sum of ammonia and ammonium	All	Oxalic acid impregnated Whatman 40 filter, 3.5-4 m^3/day	Daily	Spectrophotometric, Chloramin T
Acidity				

Country: **Poland: PL05 (lab. IEP)**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	PL05	Bulk	Daily	
Precipitation amount, official gauge	PL05	Bulk	Daily	
Sulphate	PL05	Bulk	Daily	Capillary Electrophoresis
Nitrate	PL05	Bulk	Daily	Capillary Electrophoresis
Ammonium	PL05	Bulk	Daily	Spectrophotometric, Indophenol method
Magnesium	PL05	Bulk	Daily	Plasma emission spectrometry
Sodium	PL05	Bulk	Daily	Plasma emission spectrometry
Chloride	PL05	Bulk	Daily	Capillary Electrophoresis
Calcium	PL05	Bulk	Daily	Plasma emission spectrometry
Potassium	PL05	Bulk	Daily	Atomic emission method
Conductivity	PL05	Bulk	Daily	Conductivity meter
pH	PL05	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	PL05	KOH-impregnated Whatman 40 filter, 16 m^3/day	Daily	Capillary Electrophoresis
Nitrogen dioxide	PL05	Iodide method (impregnated glass sinter), 0.7 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone	PL05	UV-monitor	Hourly	UV-absorption
Sulphate	PL05	Teflon filter Gelman Zefluor 2 μm, 16 m^3/day	Daily	Capillary Electrophoresis
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	PL05	Aerosol Teflon filter (as for sulphate) + NaOH impregnated Whatman 40 filter, 16 m^3/day	Daily	Capillary Electrophoresis
Sum of ammonia and ammonium	PL05	Aerosol Teflon filter (as for sulphate) + Oxalic acid impregnated Whatman 40 filter, 16 m^3/day	Daily	Spectrophotometric, Indophenol method
Acidity				

Country: **Portugal**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount				
Precipitation amount, official gauge	All	Rain gauge	Daily	
Sulphate	All	Bulk	Daily	Ion chromatography
Nitrate	All	Bulk	Daily	Ion chromatography
Ammonium	All	Bulk	Daily	Spectrophotometric, Indophenol method
Magnesium	All	Bulk	Daily	Ion chromatography
Sodium	All	Bulk	Daily	Ion chromatography
Chloride	All	Bulk	Daily	Ion chromatography
Calcium	All	Bulk	Daily	Ion chromatography
Potassium	All	Bulk	Daily	Ion chromatography
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide				
Sulphur dioxide				
Nitrogen dioxide				
Nitric acid				
Ammonia				
Ozone	PT04	UV-monitor	Hourly	UV-absorption
Sulphate				
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Russian Federation**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Daily	Ion chromatography
Nitrate	All	Bulk	Daily	Ion chromatography
Ammonium	All	Bulk	Daily	Ion chromatography
Magnesium	All	Bulk	Daily	Atomic absorption method
Sodium	All	Bulk	Daily	Ion chromatography
Chloride	All	Bulk	Daily	Ion chromatography
Calcium	All	Bulk	Daily	Atomic absorption method + addition of lanthanum
Potassium	All	Bulk	Daily	Ion chromatography
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	RU01	NaOH-impregnated Whatman 40 filter, 10-15 m^3/day	Daily	UV-fluorescence
Sulphur dioxide	RU16, RU18	NaOH-impregnated Whatman 40 filter, 10-15 m^3/day	Daily	Ion chromatography
Nitrogen dioxide				
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 10-15 m^3/day	Daily	Ion chromatography
Nitrate	All	Whatman 40 filter, 10-15 m^3/day	Daily	Ion chromatography
Ammonium	All	Whatman 40 filter, 10-15 m^3/day	Daily	Ion chromatography
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Serbia and Montenegro**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Daily	Ion chromatography
Nitrate	All	Bulk	Daily	Ion chromatography
Ammonium	All	Bulk	Daily	Ion chromatography
Magnesium	All	Bulk	Daily	Ion chromatography
Sodium	All	Bulk	Daily	Ion chromatography
Chloride	All	Bulk	Daily	Ion chromatography
Calcium	All	Bulk	Daily	Ion chromatography
Potassium	All	Bulk	Daily	Ion chromatography
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	Absorbing solution TCM, 1.6-2.5 m^3/day	Daily	Pararosanilin method
Nitrogen dioxide	All	Absorbing solution TGS, 1.6-2.5 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone				
Sulphate				
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Country: **Slovakia**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Nitrate	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Ammonium	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Magnesium	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Sodium	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Chloride	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Calcium	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Potassium	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Ion chromatography
Conductivity	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	Conductivity meter
pH	All	SK02: Bulk, SK04, SK05, SK06, SK07: Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, 6-10 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	Absorbing solution NaOH and guajacol, 0.5-0.6 m^3/day	Daily	Spectrophotometric, Modified Salzman method
Nitric acid	All	KOH-impregnated Whatman 40 filter, 6-10 m^3/day	Daily	Ion chromatography
Ammonia				
Ozone	SK02, SK04, SK06, SK07	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman 40 filter, 6-10 m^3/day	Daily	Capillary electrophoresis
Nitrate	All	Whatman 40 filter, 6-10 m^3/day	Daily	Capillary electrophoresis
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	SK04, SK05, SK06	Partisol R&P, Sartorius nitrocellulose filter, 24 m^3/day	Weekly	Gravimetric method
$PM_{2.5}$				
Suspended particulate matter	SK02, SK07	Sartorius nitrocellulose filter, 8-10 m^3/day	Weekly	Gravimetric method
Sum of nitric acid and nitrate	All	KOH-impregnated Whatman 40 filter / Whatman 40 filter, 6-10 m^3/day	Daily	Ion chromatography / Capillary electrophoresis
Sum of ammonia and ammonium				
Acidity				

Country: **Slovenia**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	SI08	Wet-only	Daily	By weight
Precipitation amount, official gauge	SI08	Bulk	Daily	
Sulphate	SI08	Wet-only	Daily	Ion chromatography
Nitrate	SI08	Wet-only	Daily	Ion chromatography
Ammonium	SI08	Wet-only	Daily	Ion chromatography
Magnesium	SI08	Wet-only	Daily	Ion chromatography
Sodium	SI08	Wet-only	Daily	Ion chromatography
Chloride	SI08	Wet-only	Daily	Ion chromatography
Calcium	SI08	Wet-only	Daily	Ion chromatography
Potassium	SI08	Wet-only	Daily	Ion chromatography
Conductivity	SI08	Wet-only	Daily	Conductivity meter
pH	SI08	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	SI08	KOH-impregnated Whatman 40 filter, 17-23 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	SI08	NaI-impregnated glass sinters, ~0.7 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone	SI08, SI31, SI32, SI33	UV-monitor	Hourly	UV-absorption
Sulphate	SI08	Teflon filter, Gelman Zefluor 2 μm, 17-23 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium	SI08	Teflon filter, Gelman Zefluor 2 μm, 17-23 m^3/day	Daily	Ion chromatography
Calcium	SI08	Teflon filter, Gelman Zefluor 2 μm, 17-23 m^3/day	Daily	Ion chromatography
Magnesium	SI08	Teflon filter, Gelman Zefluor 2 μm, 17-23 m^3/day	Daily	Ion chromatography
Potassium	SI08	Teflon filter, Gelman Zefluor 2 μm, 17-23 m^3/day	Daily	Ion chromatography
Chloride	SI08	Teflon filter, Gelman Zefluor 2 μm, 17-23 m^3/day	Daily	Ion chromatography
PM_{10}	SI08	Low volume sampler, 2.3 m^3/h, Quartz filter, Whatman 47 mm	Daily	Gravimetric method
$PM_{2.5}$	SI08	Low volume sampler, 2.3 m^3/h, Glass filter, Whatman 47 mm	Daily	Gravimetric method
Heavy metals (As, Cd, Cr, Cu, Ni, Pb) from PM_{10}	SI08	Low volume sampler, 2.3 m^3/h, Quartz filter, Whatman 47 mm	Weekly	ICP-MS
Suspended particulate matter				
Sum of nitric acid and nitrate	SI08	Teflon filter, Gelman Zefluor 2 μm + KOH impregnated Whatman 40 filter, 17-23 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	SI08	Teflon filter, Gelman Zefluor 2 μm + oxalic acid impregnated Whatman 40 filter, 17-23 m^3/day	Daily	Ion chromatography
Acidity				

Country: **Spain**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Visible spectrophotometry, Indophenol method
Magnesium	All	Wet-only	Daily	Atomic absorption method + addition of lanthanum
Sodium	All	Wet-only	Daily	Atomic absorption method + addition of caesium
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Atomic absorption method + addition of lanthanum
Potassium	All	Wet-only	Daily	Atomic absorption method + addition of caesium
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity	All	Wet-only	Daily	Calculated from pH
Heavy metals (As, Cd, Cr, Cu, Ni, Pb, Zn)	ES08, ES09	Wet-only	Weekly	ICP-mass
Air				
Sulphur dioxide	All	Instrumental: UV-fluorescence	Hourly	
Nitrogen dioxide	All	Instrumental: Chemiluminescence	Hourly	
Nitric acid				
Ammonia	ES08, ES09	Passive sampler	Weekly	Visible spectrophotometry, Indophenol method
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Whatman GF/A filter, 720 m^3/day	Daily	Ion chromatography
Nitrate	All	Whatman GF/A filter, 720 m^3/day (from 02/2003)	Daily	Ion chromatography
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	All		Daily	Gravimetric method
$PM_{2.5}$	All		Daily	Gravimetric method
Suspended particulate matter	All	Till 31/12/2002	Daily	Gravimetric method
Sum of nitric acid and nitrate	All	NaOH impregnated Whatman 40 filter, 35 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All	Oxalic acid impregnated Whatman 40 filter, 35 m^3/day	Daily	Visible spectrophotometry, Indophenol method
Acidity				
Heavy metals (Cd, Cu, Pb)	ES08, ES09	PM_{10}	24 hour, once a week	GF-AAS
VOCs	ES09	Canister	Twice a week	Gas chromatography with FID
Carbonyls	ES09	Cartridges of silica-DNPH	Twice a week	HPLC with detector UC

Country: **Sweden**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Weekly except SE02; daily at SE02	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Nitrate	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Ammonium	All	Wet-only	Weekly except SE02; daily at SE02	Spectrophotometric, Flow injection analysis
Magnesium	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Sodium	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Chloride	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Calcium	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Potassium	All	Wet-only	Weekly except SE02; daily at SE02	Ion chromatography
Conductivity	All	Wet-only	Weekly except SE02; daily at SE02	Conductivity meter
pH	All	Wet-only	Weekly except SE02; daily at SE02	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, 20 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	NaI-impregnated glass sinters, ~0.7 m^3/day	Daily	Spectrophotometric, Flow Injection Analysis
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	All	Teflon filter, Gelman Zefluor 2 μm, 20 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}		TEOM (Tapered Element Oscillating Microbalance	Hourly	TEOM
$PM_{2.5}$		TEOM (Tapered Element Oscillating Microbalance	Hourly	TEOM
Suspended particulate matter	All	Black smoke on Whatman-filter	Daily	Reflectance
Sum of nitric acid and nitrate	All except SE08	Aerosol filter as for sulphate + KOH-impregnated Whatman 40 filter, 20 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All except SE08	Aerosol filter as for sulphate + Oxalic acid impregnated Whatman 40 filter, 20 m^3/day	Daily	Flow injection analysis
Acidity				

Country: **Switzerland**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	
Precipitation amount, official gauge				
Sulphate	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Nitrate	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Ammonium	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Magnesium	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Sodium	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Chloride	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Calcium	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Potassium	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Ion chromatography
Conductivity	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	Conductivity meter
pH	CH02, CH04, CH05	Wet-only	Daily at CH02, CH05; weekly at CH04	pH meter
Acidity				
Air				
Sulphur dioxide	CH01	Absorbing solution H_2O_2, 4.1 m^3/day	Daily	Ion chromatography
Sulphur dioxide	CH02, CH04, CH05	Instrumental: UV-fluorescence	Daily	UV-fluorescence
Nitrogen dioxide	CH01, CH05	Chemiluminescence (Cranox)	Daily	Chemiluminescence (Cranox)
Nitrogen dioxide	CH02, CH03, CH04	Chemiluminescence	Daily	Chemiluminescence
Nitric acid				
Ammonia				
Ozone	All	UV-monitor	Hourly	UV-absorption
Sulphate	CH02, CH05	Schleicher & Schüll filter 589/4, 3.6 m^3/day (regularily checked against IC)	Daily	X-ray fluorescence (XRF)
Sulphate	CH01	Schleicher & Schüll filter 589/4, 4.1 m^3/day (regularily checked against IC)	Daily	X-ray fluorescence (XRF)
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}	All	High Volume Samplers, Ederol 227/1/60, 720 m^3/day	Daily (CH01 2-day-samples)	Gravimetry
$PM_{2.5}$	CH02, CH04	High Volume Samplers, Ederol 227/1/60, 720 m^3/day	Daily	Gravimetry
PM_1	CH04	High Volume Samplers, Ederol 227/1/60, 720 m^3/day	Daily	Gravimetry
Suspended particulate matter				
Sum of nitric acid and nitrate	CH02, CH05	NaOH impregnated Schleicher & Schüll 589/4 filter, 18 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	CH02, CH05	Citric acid impregnated Schleicher & Schüll 589/4 filter, 18 m^3/day	Daily	Ion chromatography
Acidity				

Country: **Turkey**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Wet-only	Daily	
Precipitation amount, official gauge				
Sulphate	All	Wet-only	Daily	Ion chromatography
Nitrate	All	Wet-only	Daily	Ion chromatography
Ammonium	All	Wet-only	Daily	Spectrophotometric, Indophenol method
Magnesium	All	Wet-only	Daily	Atomic absorption method
Sodium	All	Wet-only	Daily	Atomic absorption method
Chloride	All	Wet-only	Daily	Ion chromatography
Calcium	All	Wet-only	Daily	Atomic absorption method
Potassium	All	Wet-only	Daily	Atomic absorption method
Conductivity	All	Wet-only	Daily	Conductivity meter
pH	All	Wet-only	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	KOH-impregnated Whatman 40 filter, 27 m^3/day	Daily	Ion chromatography
Nitrogen dioxide	All	NaI-impregnated glass sinters, 0.72 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone				
Sulphate	All	Teflon filter, Gelman Zefluor 2 μm, 27 m^3/day	Daily	Ion chromatography
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	All	KOH-impregnated Whatman 40 filter, Teflon filter, Gelman Zeflour 2 μm, 27 m^3/day	Daily	Ion chromatography
Sum of ammonia and ammonium	All	Citric acid impregnated Whatman 40 filter, Teflon filter, Gelman Zeflour 2 μm, 27 m^3/day	Daily	Spectrophotometric, Indophenol method
Acidity				

Country: **United Kingdom**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount		Bulk collector	Weekly then fortnightly	
Precipitation amount, official gauge				
Sulphate		Bulk collector	Weekly then fortnightly	Ion chromatography
Nitrate		Bulk collector	Weekly then fortnightly	Ion chromatography
Ammonium		Bulk collector	Weekly then fortnightly	Ion chromatography
Magnesium		Bulk collector	Weekly then fortnightly	Ion chromatography
Sodium		Bulk collector	Weekly then fortnightly	Ion chromatography
Chloride		Bulk collector	Weekly then fortnightly	Ion chromatography
Calcium		Bulk collector	Weekly then fortnightly	Ion chromatography
Potassium		Bulk collector	Weekly then fortnightly	Ion chromatography
Conductivity		Bulk collector	Weekly then fortnightly	Conductivity meter
pH		Bulk collector	Weekly then fortnightly	pH meter
Acidity				
Air				
Sulphur dioxide		Filter pack	Fortnightly	Ion chromatography
Nitrogen dioxide		Automatic monitor	Hourly	Chemiluminescence
Nitric acid		Note 1		
Ammonia		Note 1		
Ozone		UV-monitor	Hourly	UV-absorption
Sulphate		Whatman 41 filter, 1.1 m^3/day	Daily	Ion chromatography
Nitrate		Note 1	Monthly	
Ammonium		Note 1	Monthly	
Sodium		Note 1	Monthly	
Calcium		Note 1	Monthly	
Magnesium		Note 1	Monthly	
Potassium		Note 1	Monthly	
Chloride		Note 1	Monthly	
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate	GB02	Note 2		
Sum of ammonia and ammonium	GB02	Note 2		
Acidity				

Note 1 These constituents of aerosol and gaseous species are made a number of sites in the UK The concentrations have not yet been reported. Should the UK report them this year?
Note 2 The TIN TIA measurements were discontinued before 2001

Country: **Yugoslavia**		Main components and ozone - EMEP	Year: 2004	
	Station	**Sampling**	**Sampling frequency**	**Analysis method**
Precipitation				
Precipitation amount	All	Bulk	Daily	
Precipitation amount, official gauge				
Sulphate	All	Bulk	Daily	Thorin
Nitrate	All	Bulk	Daily	Spectrophotometric, Griess method, Cd reduction
Ammonium	All	Bulk	Daily	Spectrophotometric, Indophenol method
Magnesium	All	Bulk	Daily	Atomic absorption method
Sodium	All	Bulk	Daily	Atomic absorption method
Chloride	All	Bulk	Daily	Spectrophotometric, mercury thiocyanate/iron method
Calcium	All	Bulk	Daily	Atomic absorption method
Potassium	All	Bulk	Daily	Atomic absorption method
Conductivity	All	Bulk	Daily	Conductivity meter
pH	All	Bulk	Daily	pH meter
Acidity				
Air				
Sulphur dioxide	All	Absorbing solution TCM, 1.6-2.5 m^3/day	Daily	Pararosanilin method
Nitrogen dioxide	All	Absorbing solution TGS, 1.6-2.5 m^3/day	Daily	Spectrophotometric, Griess method
Nitric acid				
Ammonia				
Ozone				
Sulphate				
Nitrate				
Ammonium				
Sodium				
Calcium				
Magnesium				
Potassium				
Chloride				
PM_{10}				
$PM_{2.5}$				
Suspended particulate matter				
Sum of nitric acid and nitrate				
Sum of ammonia and ammonium				
Acidity				

Annex 5

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Annex 6

Description of statistical calculation procedures

The geometric standard deviation is a dimensionless factor. If the data come from a random sample of independent data in a normal distribution, about 95% of the data will lie between

$$\overline{c_a} - 2sd_a \; and \; \overline{c_a} + 2sd_a$$

and between

$$\frac{\overline{c_g}}{sd_g^2} \; and \; \overline{c_g} \cdot sd_g^2$$

if the data come from a lognormal distribution.

In the computations of mean values and other statistics, the concentrations below the detection limit have been set equal to one half of the actual limit. An overview of the statistics and definitions is given below.

W.mean — $\hat{c}$ is the precipitation weighted arithmetic mean concentration used for precipitation components:

$$\hat{c} = \frac{1}{\sum_i p_i} \cdot \sum_i c_i \cdot p_i$$

where p_i is precipitation amount day i with the measured concentration c_i of a specific component.

Arit mean — $\overline{c_a}$ is the arithmetic mean value used for air components only, and N is number of days with data:

$$\overline{c_a} = \frac{1}{N} \sum_i c_i$$

Arit sd — sd_a is the arithmetic standard deviation from the arithmetic mean value. It is computed for air components only:

$$sd_a = \left(\frac{\sum_i \left(c_i - \overline{c_a} \right)^2}{N - 1} \right)^{\frac{1}{2}}$$

Geom mean — $\overline{c_g}$ is the geometric mean value used for air components only, and it is computed from the arithmetic mean of ln c:

$$\overline{lnc} = \frac{1}{N} \cdot \sum_i lnc_i$$

$$\overline{c_g} = exp\left(\overline{lnc}\right)$$

Geom sd — sd_g is the geometric standard deviation from the geometric mean value. It is computed for air components only, and it is based on the standard deviation of ln c:

$$sdlnc = \left(\frac{\sum_i \left(lnc_i - \overline{lnc} \right)^2}{N - 1} \right)^{\frac{1}{2}}$$

$$sd_g = exp\left(sdlnc\right)$$

Min — is the minimum value reported for a specific component, and it is printed both for precipitation and air components.

5% — is the 5 percentile computed from the histogram of the daily results. The data have been divided into 30 classes of equal size with the addition of two extreme classes. The 5 percentile has been computed by linear interpolation of the two closest class marks. The percentile has been computed for air components only.

50% — is the 50 percentile, defined as above and computed for air data only.

95% — is the 95 percentile, defined as above and computed for air data only.

Max — is the maximum value reported for a specific component, and it is given for precipitation and air components.

Dep — is the wet deposition of a specific precipitation component. The deposition is the product of the total precipitation amount measured and the weighted arithmetic mean of a component measured at a site.

% anal — for precipitation components this is the percent of the total precipitation reported analysed for a specific component, and for air components based on the number of days with data.

Num bel — is the number of data below the detection limit (not used for precipitation amount).

Num day — is the number of days with measurements for a specific component.

Annex 7

EMEP Data Quality Objectives (DQO)

10 % accuracy or better for oxidized sulphur and oxidized nitrogen in single analysis in the laboratory,

15 % accuracy or better for other components in the laboratory,

0.1 units for pH,

15–25 % uncertainty for the combined sampling and chemical analysis (components to be specified later),

90 % data completeness of the daily values.

The targets, with respect to accuracy in the laboratory, for the very lowest concentrations of the main components in precipitation follow the WMO GAW (1992) recommendations for regional stations:

	Accuracy	
SO_4^{2-}	0.032 mg S/l	(1 µmol/l)
NO_3^-	0.014 mg N/l	(1 µmol/l)
NH_4^+	0.028 mg N/l	(2 µmol/l)
Cl^-	0.107 mg Cl/l	(3 µmol/l)
Ca^{2+}	0.012 mg Ca/l	(0.3 µmol/l)
K^+	0.012 mg K/l	(0.3 µmol/l)
Mg^{2+}	0.007 mg Mg/l	(0.3 µmol/l)
Na^+	0.007 mg Na/l	(0.3 µmol/l)

The targets for the wet analysis of components extracted from air filters are the same as for precipitation. For SO_2 the limit above for sulphate is valid for the medium volume method with impregnated filter. For NO_2 determined as NO_2^- in solution the accuracy for the lowest concentrations is 0.01 mg N/l.

The aim for data completeness is valid for the current definition used by the CCC. This definition will, however, be harmonised with the WMO GAW definition and modified.

It is understood that there is a need to investigate additional uncertainty caused by local influence on the measurements at the sites (not representative siting).