

NILU TR: 3/87
REFERENCE: 0-8118
DATE : APRIL 1987
ISBN : 82-7247-819-6

PRECIPITATION AND AIR CHEMISTRY
AT THE NORWEGIAN BACKGROUND
STATIONS, 1985

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This report presents precipitation chemistry data for 1985, based on samples collected at 22 background stations in Norway. Air measurements of sulphur dioxide and particulate sulphate were made at 7 of the stations.

Ten of the stations were operated as part of the Norwegian national environmental monitoring programme (Statlig program for forurensningsovervåking) which started in 1981 with The State Pollution Control Authority (SFT) as responsible for the co-ordination and implementation of the programme. Six of these stations are also part of the Co-operative programme for Monitoring and Evaluation of the Long Range Transmission of Air Pollution in Europe (EMEP), in operation from 1978.

The present data report is a supplement to the SFT yearly report for 1985 (Statens forurensningstilsyn, 1986), and includes the precipitation chemistry data from twelve supplementary NILU-stations. Of these, five stations have daily sampling (Lista, Vatnedalen, Vikedal, Løken, Lillestrøm II has daily sampling except in the weekends), six have weekly sampling (Risdalsheia, Lillestrøm I, Kaupanger, Nausta, Vardø, Kise (week)) and two stations have monthly sampling (Ås and Kise (month)).

The air samples of sulphur dioxide and particulate sulphate are made daily, except at Vardø with sampling sequence 2+2+3 days in succession.

The Norwegian background measurements of zinc, cadmium and lead in precipitation at 4 stations are only presented in the SFT-report. Reference is also made to the SFT report for description of analytical methods and the discussion of the data.

The data are presented as monthly and annual values. The daily values are available at NILU.

At the monthly precipitation sampling stations at Ås and Kise the monthly mean concentrations of the main components are generally higher than measured at the stations with daily precipitation sampling. This is probably due to greater dry deposition from local and long-range transported pollutants when using monthly bulk sampling. In addition, the evaporation from the bulk sampler may cause higher concentrations particularly in the summer season and with small precipitation amounts.

REFERENCES

- | | |
|----------------------------------|--|
| Statens forurensnings-
tilsyn | Overvåking av langtransportert forurensset
luft og nedbør. Årsrapport 1985.
Oslo 1986. (Statlig program for forurens-
ningsovervåking. Rapport nr. 256/86). |
|----------------------------------|--|

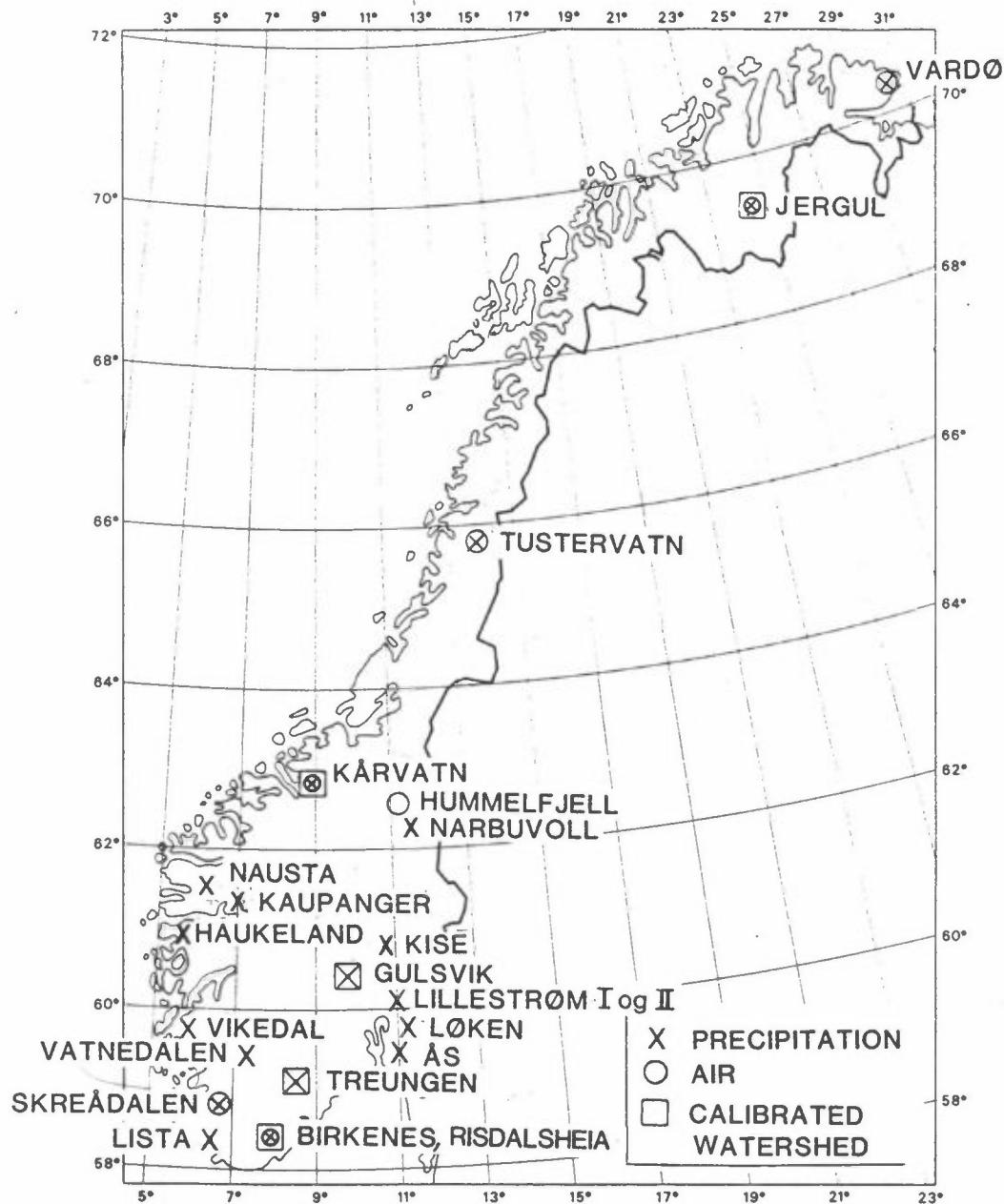


Figure 1: Norwegian background stations, 1985.

Table 1: Background stations in Norway 1977-85. The sites of the stations operating in 1985 are shown in Figure 1.

Station	County	Precipi. normal * 1931-60 mm	m.a.s.l.	Lat. (N)	Long. (E)		Measurements			
							Air	Precipitation		
								D	W 1 2	M
Skreådalen *	Vest-Agder	2015	475	58°49'0"	6°43'0"	Nov 71-	x	x		
Lista	"	1049	13	58°06'0"	6°34'0"	Nov 71-	x	x		
Birkenes	Aust-Agder	(1305)	190	58°23'0"	8°15'0"	Nov 71-	x	x	x	x
Risdalsheia	"	(1305)	340	58°24'0"	8°19'0"	Nov 84-				
Vatnedalen *	"	(945)	800	59°28'0"	7°23'0"	Nov 73-	x			
Gjerstad *	"	1250	240	58°53'0"	8°57'0"	Nov 71-Sep 77	x			
Tovdal	"	1253	227	58°48'0"	8°14'0"	Nov 71-May 79	x			
Treungen	Telemark	(1005)	270	59°01'0"	8°32'0"	Sep 73-	x			
Vasser *	Vestfold	(775)	35	59°04'0"	10°26'0"	Apr 72-May 79	x	x		
Grimelid *	Buskerud	846	367	60°08'0"	9°36'0"	Mar 72-Sep 77	x			
Bakko	"	760	969	60°41'0"	8°01'0"	Mar 77-Apr 79	x			
Gulsvik	"	(760)	260	60°22'0"	9°39'0"	Sep 74-	x			
Løken *	Akershus	(774)	150	59°48'0"	11°27'0"	Feb 72-	x			
Ås	"	785	95	59°40'0"	10°47'0"	1954-				x
Lillestrøm I	"	(810)	100	59°58'0"	11°02'0"	Sep 83-				x
Lillestrøm II *	"	(810)	100	59°58'0"	11°02'0"	Mar 85-	x			
Tågmyra	Hedmark	670	526	61°25'0"	12°04'0"	Dec 71-Sep 77	x			
Narbuovoll	"	(534)	768	62°21'0"	11°28'0"	Apr 77-	x	x		
Hummelfjell	"	-	1539	62°27'0"	11°16'0"	Mar 73-	x			
Kise (week)	"	(534)	128	60°46'0"	10°48'0"	Jan 82-				x
Kise (month) *	"	(534)	128	60°46'0"	10°48'0"	1956-				x
Vikedal I	Rogaland	(2650)	156	59°33'0"	6°00'0"	Mar 82-Dec 83				x
Vikedal II	"	(2650)	60	59°32'0"	5°58'0"	Jan 84	x			
Fitjar *	Hordaland	1590	20	59°55'0"	5°19'0"	Jul 72-Dec 81	x			
Haukeland	"	3225	204	60°49'0"	5°35'0"	Aug 81-	x			
Skei i Jølster *	Sogn og Fj.	1600	205	61°34'0"	6°29'0"	Jun 71-Jan 79	x			
Kaupanger	"	(910)	500	61°09'0"	7°06'0"	Jul 83-				x
Gaular	"	(1820)	240	61°19'0"	6°13'0"	Dec 83-Dec 84				x
Nausta	"	(2110)	265	61°35'0"	5°54'0"	Jan 85-	x			x
Kårvatn *	Møre og Romsd.	(1467)	210	62°47'0"	8°53'0"	Feb 78-	x	x	x	
Tustervatn *	Nordland	1100	439	65°50'0"	13°55'0"	Des 71-	x	x		
Skrova	"	742	18	68°09'0"	14°39'0"	Sep 82-Jul 84	x			x
Alterneset	"	(1432)	10	66°18'0"	11°01'0"	Dec 83-Nov 84				x
Dividalen	Troms	(325)	140	68°57'0"	19°30'0"	Dec 76-Apr 79	x			
Jergul *	Finnmark	(370)	255	69°24'0"	24°36'0"	Nov 76-	x	x	x	
Børselv *	"	442	10	70°19'0"	25°33'0"	Dec 76-Jan 78	x			
Vesterely *	"	380	14	70°09'0"	28°34'0"	Dec 76-Dec 77	x			
Gornitak	"	375	20	70°11'0"	28°43'0"	Feb 78-Dec 80	x			
Vardø	"	(545)	60	70°23'0"	31°09'0"	Sep 82-Apr 85	x			x

D: Daily sampling

W: Weekly sampling

M: Monthly sampling

Analyses:

Air, daily and three times

a week (see text)

: SO₄ and SO₂Precipitation D : Amount (mm)⁴, pH, conductivity, SO₄²⁻, NH₄⁺, NO₃⁻, Ca, (K), Mg,

Precipitation W1 : Amount (mm), Pb, Cd, Zn

Precipitation W2 : Amount (mm), pH, conductivity, SO₄²⁻, NH₄⁺, NO₃⁻, Ca, (K), Mg, CPrecipitation M : Amount (mm), pH, conductivity, SO₄²⁻, NH₄⁺, NO₃⁻, Ca, K, Mg, C

* Precipitation stations for the Norwegian Meteorological Institute (DNMI)

() the nearest DNMI station

Table 2: Annual weighted mean concentrations ($\mu\text{eq/l}$) of precipitation components and the ion balances, measured at the Norwegian background stations, 1985.

Station	H^+	SO_4^{2-}	NO_3^-	NH_4^+	Ca^{2+}	K^+	Sea salt content				Total ion balance $\Sigma \text{ cation}/\Sigma \text{ anion}$
							Mg^{2+}	Na^+	Cl^-	SO_4^{2-}	
Birkenes	57	61	41	41	8	5	7	34	4	4	1.05
Skreådalen	33	37	23	23	7		10		53	5	
Treungen	47	43	28	27	6		3		13	2	
Gulsvik	29	45	25	51	8		3		7	2	
Narbuvoll	17	25	12	20	9		3		8	1	
Haukeland	24	27	15	19	6		12		57	6	
Kårvatn	10	13	5	7	7		9		44	5	
Tustervatn	12	14	6	7	6		12		58	6	
Jergul	24	27	9	24	6		4		8	2	
Lista	63	69	57	49	38		143		752	75	
Vatnedalen	27	27	16	13	7		3		12	2	
Vikedal II	35	39	22	24	10	4	16	68	79	9	1.05
Løken	43	54	34	37	15		7		22	4	
Risdalsheia	65	62	39	39	8	3	8	36	40	4	1.10
Lillestrøm I	35	66	31	64	17	8	6	18	19	3	1.24
Kaupanger	21	22	10	8	4	7	4	23	25	2	1.14
Nausta	20	18	9	6	4	2	10	41	49	5	1.02
Kise (week)	34	45	28	32	15	5	4	7	7	2	1.18
Kise (month)	56	77	36	41	15	4	4	9	7	2	1.06
Ås	41	62	41	38	23	7	8	21	26	4	1.04

Table 3: Annual weighted mean concentrations of precipitation components at the Norwegian background stations, 1985.

Station	H ⁺ μeq/l	* SO ₄ ²⁻ mg S/l	NO ₃ -N mg N/l	NH ₄ -N mg N/l	Ca mg/l	K mg/l	Mg mg/l	Na mg/l	Cl mg/l
Birkenes	57	0.98	0.58	0.57	0.16	0.21	0.09	0.78	1.39
Skreådalen	33	0.59	0.32	0.33	0.15		0.12		1.87
Treungen	47	0.68	0.39	0.37	0.13		0.04		0.45
Gulsvik	29	0.73	0.35	0.72	0.16		0.04		0.26
Narbuvoll	17	0.40	0.17	0.28	0.19		0.04		0.28
Haukeland	24	0.44	0.21	0.26	0.13		0.15		2.01
Kårvatn	10	0.20	0.07	0.10	0.15		0.11		1.56
Tustervatn	12	0.22	0.08	0.10	0.12		0.15		2.07
Jergul	24	0.43	0.12	0.34	0.13		0.05		0.30
Lista	63	1.11	0.80	0.68	0.76		1.74		26.66
Vatnedalen	27	0.43	0.22	0.18	0.15		0.04		0.44
Vikedal II	35	0.63	0.30	0.33	0.21	0.16	0.20	1.57	2.79
Løken	43	0.86	0.47	0.51	0.30		0.09		0.79
Risdalsheia	65	0.99	0.54	0.55	0.16	0.13	0.10	0.82	1.42
Lillestrøm	35	1.07	0.43	0.90	0.35	0.30	0.07	0.41	0.67
Kaupanger	21	0.35	0.14	0.12	0.09	0.27	0.05	0.52	0.89
Nausta	20	0.29	0.13	0.09	0.09	0.08	0.12	0.95	1.74
Kise (week)	34	0.72	0.39	0.45	0.31	0.21	0.05	0.15	0.26
Kise (month)	56	1.23	0.50	0.57	0.30	0.14	0.05	0.20	0.26
Ås	41	1.00	0.57	0.53	0.46	0.28	0.10	0.48	0.92

Table 4: The wet deposition of precipitation components at the Norwegian background stations, 1985.

Station	H ⁺ meq/m ²	SO ₄ [*] -S g S/m ²	NO ₃ -N g N/m ²	NH ₄ -N g N/m ²	Ca g/m ²	K g/m ²	Mg g/m ²	Na g/m ²	Cl g/m ²
Birkenes	80	1.37	0.81	0.80	0.22	0.30	0.13	1.09	1.96
Skreådalen	63	1.12	0.61	0.62	0.29		0.23		3.54
Treungen	41	0.61	0.35	0.33	0.11		0.04		0.40
Gulsvik	20	0.50	0.24	0.49	0.11		0.03		0.18
Narbuvoll	12	0.27	0.11	0.19	0.12		0.02		0.19
Haukeland	71	1.28	0.61	0.77	0.39		0.43		5.90
Kårvatn	15	0.30	0.10	0.15	0.23		0.16		2.28
Tustervatn	16	0.30	0.11	0.13	0.17		0.20		2.78
Jergul	10	0.17	0.05	0.14	0.05		0.02		0.12
Lista	63	1.11	0.79	0.68	0.75		1.73		26.55
Vatnedalen	21	0.34	0.17	0.15	0.12		0.03		0.35
Vikedal II	79	1.39	0.67	0.73	0.46	0.36	0.45	3.48	6.21
Løken	39	0.77	0.42	0.46	0.27		0.08		0.70
Risdalsheia	84	1.28	0.70	0.70	0.20	0.17	0.13	1.05	1.83
Lillestrøm I	28	0.85	0.35	0.72	0.28	0.24	0.06	0.33	0.54
Kaupanger	16	0.27	0.11	0.09	0.07	0.20	0.04	0.40	0.68
Nausta	39	0.56	0.25	0.18	0.17	0.16	0.23	1.84	3.39
Kise (week)	24	0.52	0.28	0.32	0.22	0.15	0.03	0.11	0.19
Kise (month)	23	0.51	0.21	0.23	0.12	0.06	0.02	0.08	0.11
Ås	32	0.78	0.45	0.42	0.36	0.22	0.08	0.38	0.72

Table 5: Monthly and annual weighted mean values of pH in precipitation at the Norwegian background stations, 1985.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	4.21	4.03	4.13	4.10	4.24	4.49	4.15	4.28	4.23	4.33	4.27	4.49	4.24
Skreddalen	4.51	4.57	4.48	4.32	4.17	5.12	4.21	4.42	4.49	4.56	4.51	4.76	4.48
Treungen	4.20	4.28	4.14	4.21	4.37	4.46	4.38	4.43	4.22	4.28	4.37	4.63	4.33
Gulsvik	4.52	4.87	4.15	4.29	4.58	4.62	4.41	5.64	4.45	4.23	4.68	5.82	4.55
Narbu voll	4.77	4.91	4.46	4.53	5.00	4.32	4.64	4.81	4.98	5.32	4.77	4.95	4.76
Haukeland	4.50	4.64	4.75	4.40	4.24	4.60	4.82	4.56	4.45	4.72	4.48	4.89	4.61
Kårvatn	5.38	5.07	5.08	4.69	4.67	4.43	4.78	4.83	5.04	5.17	5.08	5.17	5.00
Tustervatn	4.90	5.07	5.20	5.24	4.75	4.49	4.81	4.86	5.07	4.98	4.90	5.08	4.93
Jergul	5.04	4.72	4.61	4.63	4.15	4.30	4.41	4.87	4.68	5.18	4.65	4.96	4.63
Lista	4.15	4.09	4.12	3.98	3.69	4.46	4.08	4.26	4.23	4.41	4.42	4.48	4.20
Vatnedalen	4.49	4.72	4.30	4.33	4.35	4.67	4.36	4.43	4.61	4.62	4.76	5.13	4.57
Vikedal II	4.49	4.58	4.54	4.25	4.09	4.96	4.30	4.45	4.30	4.54	4.66	4.69	4.45
Løken	4.30	4.30	3.98	4.43	4.95	4.65	4.20	4.42	4.42	4.36	4.57	4.47	4.36
Lillestrøm II			4.25	4.25	4.37	4.58	4.13	4.50	4.38	4.33	4.54	4.58	(4.38)
Risdalsheia	4.00	3.91	3.98	4.00	4.08	4.57	4.18	4.25	4.25	4.24	4.25	4.30	4.19
Lillestrøm I	4.59	4.69	4.08	4.59	4.79	4.91	4.17	4.54	4.55	4.22	4.61	4.81	4.46
Kaupanger	4.73	4.74	4.79	4.56	4.73	4.31	4.74	4.61	4.75	4.69	4.51	5.02	4.68
Nausta	4.74	4.75	4.88	4.56	4.11	4.53	4.72	4.52	4.67	4.77	4.76	5.01	4.70
Vardø	4.73	4.38	4.77	7.09									(4.60)
Kise (week)	4.63	4.66	3.94	4.20	4.68	4.84	4.48	4.30	4.71	6.14	4.59	4.99	4.47
Kise (month)	4.21	4.32	3.85	4.10	4.28	4.42	4.18	4.15	4.53	4.41	4.47	4.60	4.25
As	4.35	4.26	3.92	4.88	5.77	4.96	4.10	4.48	4.76	4.44	4.50	4.60	4.39

Table 6: Monthly and annual weighted mean values of excess sulphate (SO_4^{2-}) in precipitation at the Norwegian background stations, 1985.

Unit: mg S/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	1.18	1.29	1.43	1.40	1.85	0.69	1.24	0.73	0.75	1.05	0.73	0.45	0.98
Skreddalen	0.48	0.47	0.54	0.91	1.62	0.50	1.17	0.54	0.57	0.49	0.45	0.31	0.59
Treungen	0.58	0.66	1.15	0.94	1.24	0.57	0.70	0.53	0.74	0.80	0.54	0.27	0.68
Gulsvik	0.54	0.30	1.78	1.00	2.41	0.92	0.93	0.40	0.61	1.02	0.39	0.23	0.73
Narbu voll	0.21	0.21	0.67	0.27	0.43	1.26	0.63	0.32	0.34	0.36	0.23	0.20	0.40
Haukeland	0.49	0.36	0.29	0.74	1.82	0.63	0.48	0.37	0.61	0.33	0.47	0.20	0.44
Kårvatn	0.21	0.24	0.17	0.39	0.46	1.00	0.33	0.26	0.12	0.14	0.12	0.14	0.20
Tustervatn	0.28	0.20	0.12	0.20	0.48	0.57	0.38	0.24	0.13	0.17	0.18	0.20	0.22
Jergul	0.16	0.22	0.39	0.44	1.31	0.83	0.65	0.42	0.37	0.10	0.26	0.12	0.43
Lista	1.08	1.13	1.10	1.69	4.37	1.05	1.50	0.89	1.03	1.10	0.88	0.55	1.11
Vatnedalen	0.27	0.20	0.66	0.76	1.30	0.51	0.74	0.43	0.40	0.35	0.38	0.12	0.43
Vikedal II	0.73	0.49	0.57	0.98	2.11	0.59	0.86	0.47	0.96	0.47	0.30	0.33	0.63
Løken	0.64	0.64	2.22	1.18	0.97	0.72	1.31	0.73	0.59	0.68	0.49	0.48.	0.86
Lillestrøm II			1.80	1.07	1.39	0.58	1.76	0.56	0.58	0.85	0.59	0.35	(0.84)
Risdalsheia	1.38	1.68	1.86	1.70	1.98	0.79	1.00	0.70	0.73	1.06	0.77	0.55	0.99
Lillestrøm I	0.79	0.69	2.39	1.12	1.26	1.33	1.79	0.69	0.61	1.36	0.65	0.52	1.07
Kaupanger	0.22	0.28	0.23	0.48	0.84	0.72	0.43	0.41	0.27	0.31	0.64	0.19	0.35
Nausta	0.23	0.25	0.21	0.39	1.78	0.48	0.34	0.29	0.29	0.28	0.23	0.13	0.29
Vardø	1.41	1.40	3.56	13.55									(3.09)
Kise (week)	0.66	0.32	1.98	1.20	0.54	0.81	0.84	0.85	0.27	0.72	0.50	0.27	0.72
Kise (month)	0.85	0.50	3.53	1.81	1.56	1.52	1.22	1.11	0.88	0.86	0.62	0.55	1.23
As	1.06	0.94	2.54	1.15	2.17	0.88	1.32	0.60	0.58	0.87	0.62	0.55	1.00

Table 7: Monthly and annual weighted mean values of nitrate (NO_3^-) in precipitation at the Norwegian background stations, 1985.
Unit: mg N/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	0.93	1.04	0.69	1.14	0.76	0.29	0.53	0.36	0.52	0.84	0.51	0.35	0.58
Skreådalen	0.42	0.34	0.35	0.69	0.69	0.21	0.52	0.28	0.28	0.30	0.28	0.16	0.32
Treungen	0.60	0.54	0.59	0.62	0.44	0.24	0.23	0.28	0.45	0.54	0.37	0.23	0.39
Gulsvik	0.57	0.57	0.73	0.65	0.87	0.28	0.28	0.13	0.18	0.43	0.27	0.30	0.35
Narbu voll	0.24	0.15	0.42	0.28	0.15	0.27	0.15	0.16	0.07	0.17	0.21	0.21	0.17
Haukeland	0.24	0.18	0.14	0.35	0.51	0.23	0.20	0.18	0.30	0.18	0.26	0.11	0.21
Kårvatn	0.06	0.08	0.07	0.11	0.19	0.26	0.07	0.11	0.05	0.06	0.05	0.06	0.07
Tustervatn	0.07	0.11	0.05	0.06	0.11	0.22	0.06	0.09	0.05	0.08	0.08	0.07	0.08
Jergul	0.08	0.18	0.17	0.19	0.22	0.14	0.08	0.12	0.09	0.05	0.22	0.13	0.12
Lista	0.98	0.78	0.81	1.29	2.53	0.75	0.78	0.70	0.74	0.62	0.66	0.48	0.80
Vatnedalen	0.37	0.18	0.41	0.47	0.33	0.17	0.26	0.19	0.17	0.16	0.34	0.09	0.22
Vikedal II	0.39	0.25	0.37	0.59	0.68	0.24	0.24	0.19	0.50	0.25	0.17	0.22	0.30
Løken	0.56	0.63	0.98	0.77	0.42	0.27	0.49	0.38	0.33	0.59	0.41	0.39	0.47
Lillestrøm II			0.49	0.65	0.55	0.23	0.58	0.27	0.29	0.71	0.38	0.29.	(0.39)
Risdalsheia	0.94	1.29	0.87	1.33	0.75	0.25	0.33	0.34	0.52	0.81	0.48	0.39	0.54
Lillestrøm I	0.55	0.53	0.82	0.67	0.49	0.51	0.53	0.30	0.12	0.43	0.38	0.35	0.43
Kaupanger	0.19	0.15	0.16	0.24	0.33	0.22	0.09	0.15	0.07	0.09	0.25	0.12	0.14
Nausta	0.13	0.12	0.08	0.18	0.53	0.29	0.09	0.12	0.12	0.14	0.11	0.08	0.13
Vardø	0.30	0.29	0.91	0.95									(0.46)
Kise (week)	0.51	0.39	0.84	0.80	0.23	0.28	0.25	0.35	0.32	0.45	0.40	0.30	0.39
Kise (month)	0.88	0.53	1.12	0.79	0.42	0.39	0.30	0.38	0.39	0.64	0.51	0.63	0.50
As	0.78	0.74	1.20	0.72	1.13	0.37	0.56	0.36	0.34	0.81	0.37	0.39	0.57

Table 8: Monthly and annual weighted mean values of ammonium (NH_4^+) in precipitation at the Norwegian background stations, 1985.
Unit: mg N/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	0.93	0.68	0.75	1.02	1.36	0.30	0.49	0.36	0.51	0.94	0.36	0.25	0.57
Skreådalen	0.27	0.33	0.36	0.61	0.94	0.21	0.57	0.27	0.29	0.33	0.22	0.18	0.33
Treungen	0.21	0.29	0.54	0.50	0.87	0.33	0.42	0.30	0.36	0.63	0.24	0.11	0.37
Gulsvik	0.57	0.80	1.12	0.80	2.70	0.65	0.65	0.96	0.63	0.61	0.07	0.79	0.72
Narbu voll	0.05	0.10	0.28	0.09	0.27	0.79	0.62	0.16	0.33	0.23	0.09	0.19	0.28
Haukeland	0.19	0.18	0.13	0.40	0.86	0.36	0.54	0.26	0.36	0.18	0.22	0.10	0.26
Kårvatn	0.06	0.07	0.06	0.14	0.13	0.50	0.15	0.35	0.06	0.09	0.03	0.12	0.10
Tustervatn	0.10	0.12	0.08	0.12	0.22	0.18	0.04	0.18	0.05	0.09	0.08	0.08	0.10
Jergul	0.04	0.02	0.09	-	0.30	0.21	0.17	1.22	0.11	0.02	0.09	0.02	0.34
Lista	0.65	0.56	0.60	1.02	2.23	0.55	0.81	0.53	0.56	0.55	0.56	0.75	0.68
Vatnedalen	0.10	0.04	0.21	0.26	0.60	0.23	0.27	0.15	0.10	0.06	0.39	0.11	0.18
Vikedal II	0.43	0.20	0.21	0.53	0.95	0.82	0.26	0.21	0.67	0.30	0.16	0.15	0.33
Løken	0.27	0.42	1.40	1.01	0.62	0.43	0.70	0.40	0.27	0.55	0.29	0.30	0.51
Lillestrøm II			1.22	0.69	0.80	0.29	0.79	0.36	0.25	0.53	0.40	0.20.	(0.46)
Risdalsheia	0.55	0.69	0.95	1.23	1.00	0.75	0.59	0.33	0.43	0.84	0.27	0.16	0.55
Lillestrøm I	0.50	0.52	1.56	0.78	0.94	3.77	0.95	0.37	0.05	0.19	0.45	0.41	0.90
Kaupanger	0.04	0.10	0.07	0.15	0.64	0.14	0.25	0.12	0.09	0.06	0.20	0.11	0.12
Nausta	0.06	0.09	0.09	0.14	0.46	0.18	0.09	0.04	0.11	0.09	0.11	0.04	0.09
Vardø	0.49	0.23	4.60	22.51									(3.47)
Kise (week)	0.19	0.25	0.83	0.72	0.30	0.68	0.57	0.56	0.13	0.74	0.31	0.30	0.45
Kise (month)	0.48	0.16	1.32	1.00	0.50	0.50	0.58	0.42	0.60	0.42	0.44	0.36	0.57
's	0.46	0.56	1.48	0.76	1.50	0.52	0.60	0.28	0.17	0.62	0.20	0.24	0.53

Table 9: Monthly and annual weighted mean values of calcium (Ca) in precipitation at the Norwegian background stations, 1985.
Unit: mg/l

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	0.19	0.19	0.16	0.18	0.57	0.10	0.10	0.11	0.14	0.21	0.15	0.12	0.16
Skreådalen	0.19	0.15	0.14	0.29	0.35	0.34	0.13	0.08	0.18	0.15	0.12	0.11	0.15
Treungen	0.14	0.16	0.15	0.18	0.30	0.14	0.08	0.09	0.11	0.13	0.10	0.10	0.13
Gulsvik	0.11	0.09	0.26	0.10	0.20	0.23	0.14	0.12	0.11	0.22	0.15	0.22	0.16
Narbu voll	0.39	0.11	0.24	0.11	0.16	0.26	0.11	0.22	0.09	0.48	0.17	0.19	0.19
Haukeland	0.12	0.09	0.14	0.16	0.50	0.21	0.17	0.08	0.15	0.10	0.14	0.11	0.13
Kårvatn	0.42	0.32	0.18	0.13	0.13	0.22	0.07	0.08	0.07	0.10	0.12	0.09	0.15
Tustervatn	0.17	0.13	0.20	0.18	0.07	0.13	0.08	0.10	0.08	0.14	0.09	0.13	0.12
Jergul	0.15	0.10	0.12	0.10	0.19	0.12	0.10	0.13	0.14	0.10	0.09	0.34	0.13
Lista	0.76	0.63	0.21	0.39	1.13	0.64	0.37	0.37	0.95	1.94	2.09	0.80	0.76
Vatnedalen	0.13	0.08	0.17	0.36	0.48	0.15	0.14	0.10	0.16	0.16	0.09	0.09	0.15
Vikedal II	0.33	0.14	0.30	0.27	0.68	0.23	0.13	0.12	0.27	0.15	0.18	0.19	0.21
Løken	0.14	0.12	0.30	0.39	0.65	0.21	0.19	0.15	0.14	0.14	1.83	0.13	0.30
Lillestrøm II			0.17	0.29	0.64	0.15	0.22	0.13	0.11	0.25	0.23	0.13	(0.18)
Risdalsheia	0.38	0.25	0.14	0.26	0.42	0.17	0.15	0.06	0.10	0.22	0.23	0.10	0.16
Lillestrøm I	0.40	0.32	0.33	0.62	0.91	0.51	0.25	0.31	0.19	0.59	0.26	0.25	0.35
Kaupanger	0.11	0.07	0.12	0.10	0.30	0.09	0.10	0.08	0.07	0.08	0.16	0.08	0.09
Nausta	0.10	0.05	0.12	0.11	0.35	0.07	0.09	0.07	0.07	0.09	0.10	0.06	0.09
Vardø	4.23	1.48	6.40	10.76									(4.20)
Kise (week)	1.44	0.14	0.38	0.23	0.28	0.28	0.11	0.08	0.14	0.68	0.39	0.15	0.31
Kise (month)	0.30	0.20	0.50	0.30	0.50	0.50	0.20	0.20	0.10	0.50	0.50	0.70	0.30
As	0.60	0.30	0.30	0.80	1.40	0.40	0.50	0.30	0.50	0.60	0.40	0.40	0.46

Table 10: Monthly and annual weighted mean values of potassium (K) in precipitation at the Norwegian background stations, 1985.
Unit: mg/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	0.52	0.29	0.30	0.21	0.30	0.25	0.14	0.12	0.22	0.14	0.21	0.21	0.21
Skreådalen											0.22	0.23	
Treungen											0.08	0.09	
Gulsvik											0.53	0.41	
Kårvatn											0.15	0.15	
Tustervatn											0.12	0.22	
Vikedal II	0.24	0.05	0.16	0.44	0.29	0.39	0.08	0.11	0.20	0.13	0.15	0.14	0.16
Lillestrøm II			0.07	0.18	0.31	0.15	0.21	0.22	0.22	0.30	0.32	0.14	(0.20)
Risdalsheia	0.17	0.38	0.08	0.13	0.11	0.36	0.16	0.07	0.11	0.11	0.16	0.12	0.13
Lillestrøm I	0.21	0.09	0.27	0.12	0.31	0.77	0.31	0.32	0.14	0.19	0.23	0.32	0.30
Kaupanger	0.33	0.14	0.22	0.20	0.60	0.14	0.27	0.55	0.12	0.19	0.25	0.33	0.27
Nausta	0.10	0.01	0.12	0.09	0.07	0.06	0.06	0.07	0.13	0.05	0.07	0.10	0.08
Kise (week)	0.30	0.08	0.15	0.12	0.13	0.21	0.17	0.12	0.20	1.93	0.10	0.11	0.21
Kise (month)	0.14	0.02	0.09	0.10	0.20	0.23	0.12	0.05	0.22	0.25	0.06	0.17	0.14
As	0.14	0.06	0.11	1.03	2.35	0.48	0.10	0.05	0.41	0.18	0.13	0.07	0.28

Table 11: Monthly and annual weighted mean values of magnesium (Mg) in precipitation at the Norwegian background stations, 1985
Unit: mg/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	0.16	0.25	0.04	0.06	0.07	0.04	0.03	0.09	0.06	0.10	0.25	0.10	0.09
Skreådalen	0.30	0.21	0.19	0.05	0.06	0.23	0.04	0.06	0.11	0.13	0.18	0.13	0.12
Treungen	0.05	0.11	0.03	0.02	0.05	0.04	0.03	0.03	0.03	0.06	0.10	0.03	0.04
Gulsvik	0.02	0.02	0.04	0.02	0.05	0.04	0.02	0.05	0.02	0.07	0.11	0.03	0.04
Narbu voll	0.05	0.03	0.04	0.02	0.02	0.06	0.02	0.03	0.02	0.20	0.04	0.02	0.04
Haukeland	0.20	0.10	0.23	0.30	0.09	0.04	0.08	0.08	0.16	0.13	0.22	0.16	0.15
Kårvatn	0.08	0.13	0.15	0.31	0.08	0.07	0.02	0.03	0.04	0.10	0.21	0.08	0.11
Tustervatn	0.15	0.09	0.37	0.18	0.01	0.04	0.01	0.06	0.04	0.29	0.09	0.15	0.15
Jergul	0.06	0.06	0.02	0.07	0.04	0.02	0.01	0.15	0.02	0.05	0.03	0.03	0.05
Lista	1.78	1.49	0.34	0.30	0.78	1.37	0.41	0.88	2.07	4.80	6.36	1.99	1.74
Vatnedalen	0.03	0.01	0.04	0.04	0.05	0.03	0.03	0.03	0.07	0.06	0.05	0.03	0.04
Vikedal II	0.28	0.12	0.24	0.09	0.13	0.18	0.05	0.12	0.20	0.30	0.39	0.28	0.20
Løkken	0.05	0.04	0.04	0.06	0.09	0.04	0.03	0.09	0.03	0.04	0.56	0.05	0.09
Lillestrøm II			0.03	0.03	0.08	0.02	0.03	0.04	0.03	0.07	0.12	0.03	(0.04)
Risdalsheia	0.20	0.25	0.04	0.26	0.06	0.06	0.04	0.09	0.06	0.10	0.18	0.13	0.10
Lillestrøm I	0.05	0.05	0.04	0.05	0.10	0.13	0.06	0.09	0.05	0.13	0.12	0.04	0.07
Kaupanger	0.04	0.05	0.13	0.09	0.11	0.03	0.02	0.04	0.04	0.06	0.10	0.04	0.05
Nausta	0.09	0.09	0.25	0.29	0.04	0.02	0.03	0.08	0.12	0.05	0.16	0.16	0.12
Vardø	10.96	3.99	17.90	25.91									(10.90)
Kise (week)	0.20	0.01	0.05	0.02	0.03	0.04	0.02	0.03	0.02	0.21	0.06	0.02	0.05
Kise (month)	0.05	0.04	0.08	0.06	0.10	0.08	0.03	0.05	0.01	0.10	0.12	0.09	0.05
Ås	0.13	0.08	0.06	0.15	0.24	0.08	0.07	0.09	0.11	0.14	0.13	0.10	0.10

Table 12: Monthly and annual weighted mean values of sodium (Na) in precipitation at the Norwegian background stations, 1985
Unit: mg/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	1.69	1.93	0.33	0.59	0.36	0.29	0.26	0.72	0.54	0.85	2.19	0.94	0.78
Skreådalen											1.50	1.21	
Treungen											0.76	0.24	
Gulsvik											0.33	0.38	
Kårvatn											1.81	0.76	
Tustervatn											0.71	1.24	
Vikedal II	2.21	0.92	1.69	0.58	0.63	0.90	0.33	0.91	1.61	2.51	3.10	2.25	1.57
Lillestrøm II			0.16	0.14	0.35	0.15	0.31	0.34	0.36	0.65	0.98	0.28	(0.35)
Risdalsheia	1.50	2.16	0.34	2.01	0.22	0.40	0.30	0.67	0.48	0.83	2.00	1.04	0.82
Lillestrøm I	0.49	0.38	0.35	0.15	0.29	0.28	0.24	0.42	0.29	1.06	0.96	0.50	0.41
Kaupanger	0.56	0.51	1.21	0.77	0.40	0.18	0.25	0.47	0.42	0.55	0.93	0.48	0.52
Nausta	0.75	0.63	2.04	2.25	0.19	0.11	0.24	0.65	0.94	0.38	1.18	1.35	0.95
Kise (week)	0.37	0.10	0.16	0.19	0.12	0.14	0.13	0.13	0.05	0.25	0.28	0.15	0.15
Kise (month)	0.30	0.10	0.20	0.20	0.20	0.20	0.20	0.20	0.10	0.20	0.50	0.30	0.20
Ås	0.60	0.50	0.30	0.20	0.60	0.20	0.30	0.50	0.40	0.70	1.10	0.60	0.48

Table 13: Monthly and annual weighted mean concentration of chloride (Cl) in precipitation at the Norwegian background stations, 1985.
Unit: mg/l.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	3.13	3.56	0.60	1.24	0.67	0.53	0.41	1.27	1.08	1.41	3.71	1.67	1.39
Skreådalen	5.05	3.00	2.87	0.91	0.83	1.73	0.62	1.05	1.84	2.18	2.75	2.15	1.87
Treungen	0.34	1.24	0.19	0.26	0.23	0.18	0.32	0.37	0.47	0.89	1.42	0.34	0.45
Gulsvik	0.17	0.19	0.20	0.24	0.70	0.14	0.25	0.21	0.22	0.56	0.50	0.41	0.26
Narbuvoll	0.37	0.43	0.24	0.23	0.22	0.24	0.12	0.22	0.20	1.33	0.40	0.33	0.28
Haukeland	2.88	1.33	3.29	3.61	0.78	0.24	0.73	0.96	2.53	1.79	3.11	2.35	2.01
Kärvatn	1.06	1.66	2.14	4.47	0.98	0.21	0.22	0.25	0.77	1.45	3.28	1.20	1.56
Tustervatn	2.06	1.34	5.07	2.72	0.16	0.29	0.14	0.61	0.58	4.11	1.19	2.15	2.07
Jergul	0.80	1.07	0.27	-	0.24	0.07	0.09	0.23	0.08	0.91	0.20	0.21	0.30
Lista	28.02	21.42	5.05	4.51	10.85	20.21	6.16	12.57	32.50	76.67	95.54	32.02	26.66
Vatnedalen	0.43	0.36	0.47	0.44	0.31	0.22	0.16	0.29	0.59	0.78	0.71	0.48	0.44
Vikedal II	4.09	1.52	3.14	1.65	1.31	1.29	0.60	1.46	2.70	4.49	5.55	4.05	2.79
Løken	0.73	0.54	0.50	0.39	0.47	0.35	0.44	1.44	0.53	0.78	1.95	0.79	0.79
Lillestrøm II			0.18	0.35	0.37	0.16	0.37	0.45	0.38	1.10	1.67	0.56	(0.50)
Risdalsheia	2.59	2.78	0.59	4.15	0.39	0.40	0.36	1.14	0.98	1.41	3.50	1.89	1.42
Lillestrøm I	0.66	0.69	0.69	0.35	0.49	0.32	0.39	0.76	0.45	1.44	1.70	0.79	0.67
Kaupanger	0.85	1.14	2.18	1.40	0.60	0.21	0.28	0.72	0.75	0.99	1.47	0.82	0.89
Nausta	1.31	1.32	3.70	4.19	0.38	0.13	0.36	0.99	1.76	0.77	2.34	2.45	1.74
Vardø	171.81	59.72	300.00	450.11									(177.40)
Kise (week)	0.56	0.23	0.39	0.35	0.14	0.16	0.16	0.25	0.11	0.65	0.55	0.18	0.26
Kise (month)	0.30	0.20	0.20	0.20	0.30	0.20	0.20	0.30	0.20	0.30	0.70	0.30	0.26
As	1.10	1.10	0.60	0.50	1.20	0.40	0.50	0.90	0.80	1.20	2.00	1.20	0.92

Table 14: Monthly and annual amounts of precipitation at the Norwegian background stations, 1985.
Unit: mm. NILU sampler.

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year	% of normal precipitation DMI 1931-1960
Birkenes	60	19	164	97	62	62	149	301	136	88	118	154	1409	87*
Skreådalen	90	46	67	102	58	95	149	388	228	225	125	322	1895	92*
Treungen	49	16	78	84	38	67	72	189	68	66	66	99	892	90*
Gulsvik	61	28	43	53	6	83	97	108	78	24	53	51	686	96*
Narbuvoll	65	33	22	25	21	28	109	127	133	20	43	46	671	124
Haukeland	153	186	303	98	67	67	273	397	390	429	159	409	2930	93*
Kärvatn	139	130	87	59	22	31	100	88	231	247	224	104	1462	116
Tustervatn	60	59	77	66	47	68	87	129	198	361	124	67	1344	122*
Jergul	17	4	46	3	16	39	41	84	58	53	25	20	406	111*
Lista	60	42	74	89	20	30	93	219	113	58	72	126	996	94*
Vatnedalen	48	26	19	39	30	94	45	130	106	68	65	125	794	89*
Vikedal II	91	131	133	123	62	47	186	401	286	268	132	365	2223	91*
Løken	53	30	53	60	16	101	119	154	119	45	61	83	894	124*
Lillestrøm II			29	57	14	95	99	124	108	28	56	77	(687)	113
Risdalsheia	47	13	103	71	53	79	157	313	146	82	105	121	1290	87*
Lillestrøm I	35	37	59	61	20	83	101	135	107	31	56	76	801	113*
Kaupanger	79	63	45	34	8	51	61	101	122	80	30	95	769	110
Nausta	122	137	150	75	41	55	106	209	289	261	197	302	1943	-*
Vardø	23	25	9	7									(64)	126*
Kise (weekly)	65	37	40	37	43	63	90	141	101	18	31	48	715	126
Kise (monthly)	24	18	24	27	14	41	68	71	74	12	21	16	410	126*
As	29	44	77	73	7	82	70	105	79	58	76	83	782	115

* The nearest DMI-sampler

Table 15: Monthly and annual wet deposition of strong acid (H^+) at the Norwegian background stations, 1985.
Unit: meq/m².

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	3.65	1.73	12.08	7.67	3.55	2.01	10.45	15.98	7.93	4.07	6.29	4.97	80.39
Skreådalen	2.75	1.23	2.22	4.91	3.97	0.72	9.22	14.81	7.46	6.22	3.89	5.56	62.97
Treungen	3.11	0.86	5.65	5.16	1.60	2.31	2.98	7.11	4.12	3.46	2.81	2.31	41.48
Gulsvik	1.84	0.38	3.03	2.74	0.15	1.99	3.79	0.25	2.76	1.43	1.11	0.08	19.55
Narbuvoll	1.11	0.41	0.76	0.74	0.22	1.34	2.48	1.97	1.38	0.09	0.72	0.51	11.73
Haukeland	4.81	4.25	5.38	3.90	3.84	1.68	4.17	10.88	13.75	8.19	5.23	5.26	71.33
Kårvatn	0.58	1.10	0.74	1.21	0.47	1.15	1.68	1.31	2.12	1.67	1.86	0.70	14.59
Tustervatn	0.75	0.51	0.48	0.38	0.85	2.20	1.37	1.77	1.68	3.77	1.58	0.56	15.89
Jergul	0.16	0.07	1.13	0.06	1.14	1.94	1.62	1.15	1.21	0.35	0.57	0.22	9.61
Lista	4.23	3.38	5.59	9.26	4.18	1.04	7.69	11.94	6.65	2.24	2.74	4.20	63.13
Vatnedalen	1.53	0.49	0.97	1.86	1.35	2.02	1.95	4.80	2.59	1.61	1.12	0.92	21.21
Vikedal II	2.92	3.44	3.87	6.86	5.09	0.52	9.29	14.29	14.34	7.81	2.90	7.48	78.80
Løken	2.70	1.52	5.47	2.22	0.18	2.25	7.43	5.88	4.54	1.97	1.63	2.84	38.64
Lillestrøm II			1.64	3.20	0.58	2.51	7.42	3.93	4.48	1.34	1.64	2.05.	(28.78)
Risdalsheia	4.72	1.63	10.73	7.17	4.40	2.12	10.32	17.64	8.15	4.77	5.97	6.06	83.68
Lillestrøm I	0.92	0.74	4.98	1.56	0.33	1.01	6.89	3.87	2.99	1.85	1.38	1.18	27.71
Kaupanger	1.48	1.15	0.73	0.94	0.14	2.50	1.11	2.52	2.19	1.62	0.95	0.90	16.23
Nausta	2.21	2.45	1.97	2.09	3.21	1.62	2.04	6.32	6.13	4.47	3.45	2.95	38.90
Vardø	0.42	1.04	0.15	~0									(1.62)
Kise (week)	1.52	0.82	4.62	2.31	0.88	0.91	2.99	7.10	1.95	0.01	0.82	0.49	24.42
Kise (month)	1.46	0.87	3.35	2.13	0.74	1.55	4.52	5.04	2.18	0.48	0.42	0.41	23.14
Ås	1.29	2.42	9.23	0.97	0.01	0.90	5.52	3.46	1.37	2.11	2.39	2.09	31.77

Table 16: Monthly and annual wet deposition of excess sulphate (SO_4^{2-}) of the Norwegian background stations, 1985.
Unit: mg S/m².

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	70	24	235	136	114	43	184	220	101	92	86	70	1375
Skreådalen	43	22	36	93	95	47	174	210	130	111	56	100	1117
Treungen	28	11	89	79	47	38	51	100	50	53	36	27	608
Gulsvik	33	8	76	53	14	76	90	43	48	25	21	11	499
Narbuvoll	13	7	15	7	9	36	68	40	45	7	10	9	266
Haukeland	75	66	89	72	122	42	131	148	237	139	74	81	1276
Kårvatn	29	31	15	23	10	31	33	23	28	34	27	14	298
Tustervatn	17	12	10	13	23	39	33	31	26	60	22	13	298
Jergul	3	1	18	1	21	32	27	35	22	5	6	2	174
Lista	65	47	81	150	89	32	140	194	116	64	64	69	1110
Vatnedalen	13	5	13	30	39	48	33	56	43	24	24	15	343
Vikedal II	66	64	76	120	132	28	159	187	274	127	40	119	1390
Løken	34	19	116	71	16	72	156	112	71	31	30	40	768
Lillestrøm II			53	61	19	55	175	69	62	24	33	27	(577)
Risdalsheia	65	22	191	121	105	63	158	218	106	88	80	66	1282
Lillestrøm I	28	25	141	68	26	110	181	92	65	42	36	40	854
Kaupanger	17	18	10	17	6	36	26	42	33	25	20	18	267
Nausta	28	34	32	29	73	26	37	60	84	72	46	40	561
Vardø	32	35	31	99									(197)
Kise (week)	43	12	80	44	23	51	76	120	28	13	16	13	518
Kise (month)	20	9	84	48	22	62	83	79	65	11	13	9	505
Ås	31	42	195	84	15	72	92	62	46	51	47	46	782

Table 17: Monthly and annual wet deposition of nitrate (NO_3^-) at the Norwegian background stations, 1985.
Unit: mg N/m².

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	55	19	113	110	47	18	79	110	71	74	60	53	810
Skreådalen	37	16	23	70	40	20	78	107	65	67	35	52	610
Treungen	29	9	46	52	17	16	17	53	30	36	24	23	350
Gulsvik	35	16	31	35	5	24	27	13	14	10	14	15	240
Narbu voll	15	5	9	7	3	8	16	20	10	3	9	10	114
Haukeland	36	34	43	34	34	16	54	71	118	79	41	45	606
Kårvatn	8	10	6	6	4	8	6	10	11	14	11	6	100
Tustervatn	4	6	4	4	5	15	5	11	9	29	10	5	107
Jergul	1	1	8	0	4	6	3	10	5	2	6	3	49
Lista	59	33	60	115	51	22	73	153	84	36	48	60	793
Vatnedalen	17	5	8	19	10	16	12	24	18	11	22	11	173
Vikedal II	35	32	48	72	42	11	44	76	142	68	23	79	672
Løken	30	19	52	47	7	27	58	58	40	27	25	32	421
Lillestrøm II			14	37	7	22	57	33	31	20	21	22	(267)
Risdalsheia	44	17	89	95	40	20	52	106	75	67	50	46	701
Lillestrøm I	19	20	48	41	10	42	53	40	12	13	21	27	347
Kaupanger	15	9	7	8	3	11	6	15	9	7	8	11	109
Nausta	16	17	12	14	22	16	9	25	36	36	21	23	246
Vardø	7	7	8	7									(29)
Kise (week)	33	14	34	30	10	17	23	49	33	8	12	15	277
Kise (month)	21	10	27	21	6	16	21	27	29	8	11	10	205
Ås	22	33	92	53	8	30	39	38	27	47	28	32	449

Table 18: Monthly and annual wet deposition of ammonium (NH_4^+) at the Norwegian background stations, 1985.
Unit: mg N/m².

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	55	13	124	99	84	19	73	108	69	82	42	38	805
Skreådalen	24	15	24	62	55	20	85	105	67	74	28	58	616
Treungen	10	5	41	42	32	22	31	56	25	42	16	10	333
Gulsvik	35	22	48	42	15	54	64	104	49	15	4	40	492
Narbu voll	3	3	6	2	6	22	67	21	43	5	4	9	190
Haukeland	29	34	39	39	58	24	146	103	141	78	36	42	768
Kårvatn	8	9	5	8	3	15	15	31	13	21	7	12	149
Tustervatn	6	7	6	8	10	12	3	23	10	31	10	5	132
Jergul	1	0	4	~0	5	8	7	103	6	1	2	0	137
Lista	39	23	44	91	45	16	75	116	63	32	41	94	681
Vatnedalen	5	1	4	10	18	21	12	19	11	4	25	14	145
Vikedal II	39	26	27	65	59	38	48	85	190	81	21	55	734
Løken	14	13	74	61	10	43	83	62	32	25	17	25	459
Lillestrøm II			36	39	11	28	78	45	26	15	22	16	(316)
Risdalsheia	26	9	97	87	53	59	93	102	62	69	28	20	705
Lillestrøm I	18	19	92	47	19	313	96	50	5	6	25	31	722
Kaupanger	3	6	3	5	5	7	15	13	11	5	6	10	90
Nausta	7	12	13	11	19	10	10	8	31	24	21	13	177
Vardø	11	6	40	164									(222)
Kise (week)	12	9	33	27	13	43	51	80	13	13	10	14	318
Kise (month)	11	3	31	27	7	20	40	30	44	5	9	6	234
Ås	13	25	114	56	10	43	42	29	13	36	15	20	416

Table 19: Monthly and annual wet deposition of calcium (Ca) at the Norwegian background stations, 1985.
Unit: mg/m²

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	11	3	26	17	35	6	15	32	18	19	17	19	220
Skreådalen	17	7	9	30	20	32	20	33	40	33	15	35	293
Treungen	7	3	12	15	11	9	6	17	7	9	7	10	113
Gulsvik	7	3	11	5	1	19	14	13	9	5	8	11	106
Narbuvoll	26	4	5	3	3	7	12	27	12	9	7	9	125
Haukeland	18	17	44	15	33	14	46	32	60	42	22	43	386
Kårvatn	58	42	15	8	3	7	7	7	16	26	27	9	225
Tustervatn	10	7	16	12	4	9	7	12	17	52	12	9	165
Jergul	3	0	5	0	3	5	4	11	8	5	2	7	54
Lista	46	26	16	35	23	19	34	81	107	113	151	101	752
Vatnedalen	6	2	3	14	14	14	6	13	17	11	6	12	119
Vikedal II	30	18	40	34	43	11	24	47	77	41	24	71	458
Løken	8	4	16	23	11	21	23	23	17	6	111	11	273
Lillestrøm II			5	17	9	14	22	17	12	7	13	10	(125)
Risdalsheia	18	3	15	19	22	14	24	19	15	18	25	12	203
Lillestrøm I	14	12	20	38	18	42	25	42	20	18	15	19	283
Kaupanger	9	4	5	3	2	4	6	8	8	6	5	8	70
Nausta	12	7	18	8	14	4	9	14	21	23	19	18	169
Vardø	97	37	56	79									(269)
Kise (week)	94	5	15	8	12	18	10	12	14	12	12	7	219
Kise (month)	7	4	12	8	7	20	14	14	7	6	10	11	121
Ås	17	13	23	59	10	33	35	31	40	35	30	33	359

Table 20: Monthly and annual wet deposition of potassium (K) at the Norwegian background stations, 1985.
Unit: mg/m².

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	31	5	49	21	19	16	20	37	30	12	24	32	295
Skreådalen											28	73	
Treungen											5	9	
Gulsvik											28	21	
Kårvatn											34	16	
Tustervatn											15	14	
Vikedal II	21	7	21	54	18	18	16	46	57	34	20	52	364
Lillestrøm II			2	10	4	14	21	27	23	9	18	11	(140)
Risdalsheia	8	5	9	9	6	28	25	22	17	9	17	15	169
Lillestrøm I	8	3	16	8	6	64	32	43	15	6	13	25	237
Kaupanger	26	9	10	7	5	7	17	56	15	15	8	31	205
Nausta	12	2	18	6	3	3	6	15	38	13	13	31	161
Kise (week)	20	3	6	5	6	13	16	18	20	34	3	5	148
Kise (month)	3	~0	2	3	3	9	8	4	16	3	1	3	56
Ås	4	3	8	76	16	39	7	5	32	10	10	6	217

Table 21: Monthly and annual wet deposition of magnesium (Mg) at the Norwegian background stations, 1985.
Unit: mg/m²

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	9.7	4.5	6.7	6.2	4.6	2.5	4.6	25.8	8.0	9.1	29.9	15.5	127.2
Skreådalen	26.6	9.7	12.4	4.7	3.7	21.8	5.4	23.9	25.6	30.3	22.1	40.9	226.9
Treungen	2.3	1.7	2.0	2.0	1.7	2.9	1.8	6.2	2.0	4.0	6.3	2.7	35.6
Gulsvik	1.2	0.4	1.6	0.9	0.3	3.3	1.8	5.7	1.9	1.7	5.6	1.7	26.0
Narbuvoll	3.1	1.1	0.9	0.5	0.5	1.7	2.1	3.5	3.1	3.8	1.8	1.1	23.2
Haukeland	29.8	18.9	70.4	29.2	6.0	2.5	21.1	29.7	63.7	54.1	35.5	65.2	426.2
Kårvatn	10.6	17.0	12.8	18.4	1.8	2.1	1.8	2.3	10.1	24.6	46.7	8.2	156.5
Tustervatn	8.8	5.3	28.2	12.1	0.5	2.5	0.9	7.5	6.9	103.9	11.0	9.8	197.4
Jergul	1.0	0.2	0.9	0.2	0.6	0.7	0.5	12.2	0.9	2.7	0.7	0.6	21.3
Lista	107.4	62.5	24.9	26.3	15.9	41.0	38.7	192.5	233.6	278.3	459.9	249.4	1730.3
Vatnedalen	1.3	0.3	0.7	1.6	1.5	2.8	1.1	3.2	7.4	4.0	3.3	3.5	30.9
Vikedal II	25.1	15.5	31.1	11.2	8.0	8.2	9.0	47.5	55.5	81.3	51.4	101.2	445.1
Løken	2.6	1.1	2.2	3.6	1.5	4.4	3.5	14.5	4.1	1.8	34.3	4.5	78.1
Lillestrøm II			0.7	1.6	1.1	1.9	3.0	5.0	3.1	2.0	6.5	2.5	(27.5)
Risdalsheia	9.5	3.3	4.4	18.5	3.2	5.0	6.5	28.3	8.5	7.9	19.0	15.3	129.6
Lillestrøm I	1.8	2.0	2.1	2.9	2.0	10.8	5.6	11.7	5.2	3.9	6.7	3.0	57.7
Kaupanger	3.0	2.9	5.8	3.0	0.8	1.3	0.9	3.7	4.9	5.1	3.1	3.3	37.8
Nausta	10.4	12.0	37.8	21.4	1.6	0.9	3.0	16.2	35.7	13.5	31.0	48.9	232.5
Vardø	251.0	99.7	157.5	189.2									(697.3)
Kise (week)	13.0	0.5	1.9	0.9	1.3	2.6	1.9	3.7	1.8	3.6	1.9	0.9	33.9
Kise (month)	1.2	0.7	1.9	1.6	1.4	3.3	2.1	3.6	0.7	1.2	2.5	1.5	21.6
Ås	3.7	3.5	4.6	11.0	1.6	6.6	4.9	9.4	8.7	8.1	9.8	8.3	80.3

Table 22: Monthly and annual wet deposition of Sodium (Na) at the Norwegian background stations, 1985.
Unit: mg/m²

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	101	36	54	57	22	18	38	217	73	74	259	144	1094
Skreådalen											188	388	
Treungen											50	24	
Gulsvik											17	19	
Kårvatn											404	79	
Tustervatn											88	83	
Vikedal II	200	120	225	71	39	42	62	363	460	673	409	820	3483
Lillestrøm II			5	8	5	14	30	42	39	18	55	21	(234)
Risdalsheia	70	29	35	143	12	31	48	211	71	68	210	126	1053
Lillestrøm I	17	14	21	9	6	23	25	56	31	33	53	38	326
Kaupanger	44	32	54	27	3	9	15	48	52	44	28	45	402
Nausta	92	86	307	168	8	6	26	135	272	100	231	408	1839
Kise (week)	24	4	6	7	5	9	12	18	5	4	9	7	110
Kise (month)	7	2	5	5	3	8	14	14	7	2	10	5	83
Ås	17	22	23	15	4	16	21	52	32	41	83	50	376

Table 23: Monthly and annual wet deposition of chloride (Cl) at the Norwegian background stations, 1985.
Unit: mg/m²

Station	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Birkenes	186	66	99	120	42	33	61	383	147	124	439	257	1957
Skreådalen	453	138	191	93	49	164	92	409	420	491	345	693	3537
Treungen	16	20	15	22	9	12	23	70	32	59	94	33	405
Gulsvik	11	5	9	13	4	11	24	23	17	14	26	21	178
Narbuvoll	24	14	5	6	5	7	13	27	27	26	17	15	187
Haukeland	439	248	997	355	52	16	199	379	989	767	495	960	5896
Kårvatn	148	216	187	264	22	6	22	22	178	358	732	125	2279
Tustervatn	123	79	391	179	8	20	12	78	116	1482	148	144	2779
Jergul	14	4	12	~0	4	3	4	19	5	48	5	4	122
Lista	1692	897	373	401	220	606	574	2752	3663	4447	6907	4022	26554
Vatnedalen	20	9	9	18	9	21	7	37	62	53	46	60	351
Vikedal II	371	198	416	203	82	60	112	584	772	1204	732	1478	6212
Løken	39	16	26	24	8	35	53	223	63	35	118	66	705
Lillestrøm II			5	20	5	15	37	56	41	31	94	43	(347)
Risdalsheia	121	37	60	294	21	31	57	358	143	116	367	228	1834
Lillestrøm I	23	25	41	21	10	27	39	102	48	44	94	60	536
Kaupanger	67	72	98	48	5	11	17	73	92	79	45	78	683
Nausta	160	180	556	313	16	7	38	207	510	200	459	741	3388
Vardø	3935	1493	2640	3286									(11353)
Kise (week)	37	9	16	13	6	10	14	36	11	12	17	9	189
Kise (month)	7	4	5	5	4	8	14	21	15	4	15	5	106
Ås	32	49	46	37	8	33	35	94	63	70	151	100	717

Table 24: Annual weighted mean concentrations and wet depositions
of main components in precipitation at Norwegian background
stations, 1973-1985.

Station	Year	Annual mean conc. mg/l					Annual means	Annual prec.	Wet deposition			
		SO ₄ -S	NO ₃ -N	NH ₄ -N	Ca	Mg			pH	mm	SO ₄ -S	NO ₃ -N
		mg/m ²	mg/m ²	mg/m ²	mekv/m ²						NH ₄ -N	H ⁺
Birkenes	1973	1.06			0.11	4.27	1072	1136				58
	1974	1.11	0.50	0.52	0.23	0.19	4.25	1563	1735	782	813	88
	1975	1.01	0.49	0.45	0.19	0.17	4.27	1341	1354	657	603	72
	1976	1.18	0.63	0.50	0.17	0.12	4.21	1434	1692	903	717	88
	1977	1.04	0.54	0.54	0.17	0.17	4.27	1597	1661	862	862	86
	1978	1.17	0.62	0.57	0.17	0.12	4.11	1242	1453	770	708	96
	1979	1.25	0.57	0.65	0.22	0.15	4.09	1560	1950	889	1014	127
	1980	1.23	0.57	0.63	0.22	0.11	4.16	1160	1427	661	731	80
	1981	1.04	0.52	0.53	0.20	0.13	4.21	1316	1369	684	697	81
	1982	1.05	0.56	0.72	0.22	0.21	4.27	1592	1663	887	1140	86
	1983	0.91	0.49	0.50	0.24	0.17	4.33	1313	1195	646	650	62
	1984	1.09	0.57	0.63	0.21	0.19	4.24	1603	1755	905	1003	93
	1985	0.98	0.58	0.57	0.16	0.09	4.24	1409	1375	810	805	80
Skreidalen	1973	0.50			0.19	4.60	2185	1093				55
	1974	0.55			0.18	4.47	2460	1350				83
	1975	0.57	0.18	0.17	0.19	4.55	2436	1389	438	414	69	
	1976	0.60	0.24	0.23	0.17	4.55	1687	1012	405	388	48	
	1977	0.57	0.27	0.28	0.15	0.13	4.55	2051	1169	554	574	58
	1978	0.49	0.20	0.26	0.20	0.29	4.52	1769	867	354	460	53
	1979	0.61	0.26	0.28	0.16	0.14	4.33	2311	1410	601	647	108
	1980	0.48	0.21	0.21	0.15	0.17	4.54	1949	936	409	409	56
	1981	0.49	0.20	0.28	0.16	0.18	4.58	2260	1107	452	633	59
	1982	0.57	0.28	0.37	0.17	0.22	4.52	2519	1436	709	933	76
	1983	0.43	0.19	0.26	0.18	0.23	4.70	2843	1221	551	734	57
	1984	0.46	0.24	0.23	0.16	0.21	4.59	1762	802	415	401	46
	1985	0.59	0.32	0.33	0.15	0.12	4.48	1895	1117	610	616	63
Treungen	1974	0.94	0.38	0.33	0.14	0.07	4.27	1039	977	395	343	56
	1975	0.91	0.37	0.34	0.15	0.06	4.26	894	814	331	304	49
	1976	1.05	0.50	0.42	0.11	0.06	4.20	706	741	353	297	45
	1977	0.81	0.44	0.39	0.11	0.05	4.32	1165	944	513	454	56
	1978	0.87	0.38	0.41	0.14	0.04	4.21	945	822	359	387	58
	1979	-	-	-	-	-	-	-	-	-	-	-
	1980	0.88	0.37	0.39	0.14	0.04	4.23	759	668	281	296	45
	1981	0.86	0.39	0.46	0.12	0.05	4.29	949	816	370	437	49
	1982	0.84	0.45	0.50	0.14	0.07	4.32	1130	948	504	563	54
	1983	0.83	0.40	0.43	0.18	0.05	4.35	1091	908	431	471	48
	1984	0.77	0.36	0.27	0.15	0.05	4.27	1196	919	436	325	64
	1985	0.68	0.39	0.37	0.13	0.04	4.33	892	608	350	333	41

Table 24: Cont.

Station	Year	Annual mean conc. mg/l					Annual means pH	Annual prec. mm	Wet deposition			
		SO ₄ -S	NO ₃ -N	NH ₄ -N	Ca	Mg			SO ₄ -S mg/m ²	NO ₃ -N mg/m ²	NH ₄ -N mg/m ²	H ⁺ mekv/m ²
Gulsvik	1974	0.81	0.38	0.28	0.13	0.04	4.28	783	634	298	219	41
	1975	0.89	0.40	0.34	0.21	0.05	4.36	560	498	224	190	24
	1976	0.85	0.38	0.30	0.10	0.03	4.35	641	545	244	192	29
	1977	0.77	0.39	0.35	0.13	0.03	4.35	683	526	266	239	31
	1978	0.94	0.40	0.38	0.16	0.03	4.22	693	651	277	263	42
	1979	1.27	0.53	0.62	0.23	0.04	4.11	790	1003	419	490	61
	1980	0.78	0.25	0.27	0.13	0.03	4.33	667	520	167	180	31
	1981	0.86	0.35	0.40	0.13	0.03	4.30	628	540	220	251	31
	1982	0.89	0.44	0.52	0.22	0.05	4.38	778	696	346	408	33
	1983	0.94	0.40	0.58	0.25	0.05	4.39	664	623	263	384	27
	1984	0.87	0.40	0.58	0.25	0.04	4.41	946	819	382	547	37
	1985	0.73	0.35	0.72	0.16	0.04	4.55	689	499	240	492	20
Narbuvoll	1978	0.34	0.16	0.15	0.18	0.03	4.71	380	129	61	57	7
	1979	0.59	0.23	0.22	0.31	0.04	4.49	422	249	97	93	14
	1980	0.40	0.15	0.14	0.23	0.04	4.80	600	240	90	84	10
	1981	0.41	0.18	0.28	0.23	0.04	4.83	541	222	97	151	8
	1982	0.49	0.28	0.36	0.25	0.06	4.71	358	176	101	129	7
	1983	0.38	0.16	0.19	0.18	0.05	4.76	613	232	98	114	11
	1984	0.47	0.20	0.36	0.21	0.04	4.73	725	342	141	262	14
	1985	0.40	0.17	0.28	0.19	0.04	4.76	671	266	114	190	12
Haukeland	74/75*	0.31	0.13	0.15	0.17	0.29	4.70	3901	1207	522	582	78
	75/76*	0.36	0.10	0.17	0.17	0.37	4.73	4551	1636	431	753	85
	76/77*	0.59	0.23	0.45	0.18	0.25	4.59	1808	1060	417	813	46
	1982	0.48	0.18	0.20	0.14	0.24	4.56	3688	1756	674	722	101
	1983	0.32	0.14	0.14	0.15	0.26	4.70	4769	1536	647	687	96
	1984	0.42	0.16	0.28	0.20	0.22	4.63	2792	1157	454	783	65
	1985	0.44	0.21	0.26	0.13	0.15	4.61	2930	1276	606	768	71
	1978**	0.16	0.05	0.09	0.11	0.13	4.98	1317	211	66	119	14
Kärvatn	1979	0.23	0.09	0.08	0.10	0.10	4.63	1248	287	112	100	29
	1980	0.20	0.07	0.08	0.11	0.13	4.88	1225	245	86	98	16
	1981	0.20	0.08	0.15	0.17	0.25	4.96	1101	220	88	165	12
	1982	0.26	0.08	0.11	0.15	0.16	4.87	995	256	78	112	13
	1983	0.14	0.05	0.06	0.18	0.20	5.08	1918	265	100	106	16
	1984	0.24	0.10	0.18	0.22	0.18	5.04	914	216	91	166	8
	1985	0.20	0.07	0.10	0.15	0.11	5.00	1462	298	100	149	15

* From July the first year and to June the next year. Sulphate in precipitation is corrected for sea salt with Cl (instead of Mg).

** One month is missing.

Table 24: Cont.

Station	Year	Annual mean conc. mg/l					Annual means pH	Annual prec. mm	Wet deposition				
		SO ₄ -S	NO ₃ -N	NH ₄ -N	Ca	Mg			SO ₄ -S	NO ₃ -N	NH ₄ -N	H ⁺	mg/m ²
Tustervatn	1973	0.24			0.18	4.94	1336	321					15
	1974	0.28			0.11	4.88	695	195					9
	1975	0.25			0.33	4.91	1756	439					22
	1976	0.27			0.16	4.97	1064	287					11
	1977	0.30	0.09	0.11	0.17	0.16	4.91	1111	333	100	122		14
	1978	0.23	0.08	0.10	0.16	0.16	4.85	1128	259	90	113		16
	1979	0.28	0.08	0.13	0.15	0.11	4.73	1168	327	93	152		22
	1980**	0.29	0.09	0.16	0.14	0.12	4.91	858	249	77	137		11
	1981	0.18	0.07	0.10	0.21	0.15	5.00	1099	198	77	110		11
	1982	0.16	0.08	0.09	0.22	0.47	4.98	1385	227	109	121		15
	1983	0.20	0.06	0.09	0.16	0.22	4.90	1665	337	101	142		21
	1984	0.24	0.09	0.09	0.12	0.10	4.85	1056	250	94	89		15
	1985	0.22	0.08	0.10	0.12	0.15	4.93	1344	298	107	132		16
Jergul	1977	0.45	0.13	0.11	0.20	0.04	4.75	344	155	45	38		6
	1978	0.43	0.10	0.11	0.13	0.02	4.52	351	151	35	39		11
	1979	0.59	0.18	0.13	0.14	0.03	4.33	306	181	55	40		14
	1980	0.42	0.12	0.09	0.12	0.03	4.57	262	110	31	24		7
	1981	0.46	0.13	0.12	0.11	0.02	4.57	434	200	56	52		12
	1982	0.36	0.13	0.14	0.10	0.03	4.65	473	172	62	65		11
	1983	0.41	0.11	0.11	0.13	0.04	4.60	382	156	41	43		10
	1984	0.50	0.15	0.22	0.14	0.03	4.50	342	172	50	76		11
	1985	0.43	0.12	0.34	0.13	0.05	4.63	406	174	49	137		10
Lista	1973	1.01			1.31	4.33	851	860					40
	1974	1.06			1.00	4.28	1208	1280					63
	1975	1.10			1.06	4.30	1109	1220					56
	1976	1.37			1.21	4.23	922	1263					54
	1977	0.95			1.09	4.34	1114	1058					51
	1978	1.01	0.50	0.45	0.54	1.18	4.27	931	940	466	419		50
	1979	1.27	0.63	0.57	0.53	1.04	4.09	1157	1469	729	659		94
	1980	1.05	0.59	0.54	0.47	1.00	4.22	953	1001	562	515		57
	1981	0.90	0.47	0.50	0.60	1.36	4.34	1037	933	487	519		47
	1982	1.09	0.65	0.60	0.85	1.82	4.29	1070	1161	699	645		55
	1983	0.88	0.49	0.40	0.77	1.69	4.36	1198	1051	584	480		53
	1984	0.92	0.61	0.47	0.86	2.12	4.28	1002	923	613	474		53
	1985	1.11	0.80	0.68	0.76	1.74	4.20	996	1110	793	681		63

** One month is missing.

Table 24: Cont.

Station	Year	Annual mean conc. mg/l					Annual means pH	Annual prec. mm	Wet deposition			
		SO ₄ -S	NO ₃ -N	NH ₄ -N	Ca	Mg			SO ₄ -S	NO ₃ -N	NH ₄ -N	H ⁺
									2	2	2	2
Vatnedalen	1974	0.54			0.06	4.59	884	477				23
	1975	0.53	0.17	0.22	0.09	4.85	994	527	169	219	219	14
	1976	0.50	0.20	0.36	0.12	0.10	4.85	715	358	143	257	10
	1977	0.44	0.21	0.25	0.13	0.06	4.71	761	335	160	190	15
	1978	0.41	0.17	0.23	0.14	0.10	4.62	862	353	147	198	21
	1979	0.56	0.22	0.20	0.20	0.06	4.38	948	531	209	190	40
	1980	0.45	0.16	0.10	0.14	0.06	4.55	799	360	128	80	23
	1981	0.49	0.19	0.18	0.14	0.09	4.49	900	441	171	162	29
	1982	0.38	0.18	0.17	0.13	0.08	4.62	967	366	174	159	23
	1983	0.29	0.13	0.10	0.14	0.08	4.76	1249	363	166	130	22
	1984	0.40	0.18	0.13	0.16	0.08	4.59	762	306	138	102	20
	1985	0.43	0.22	0.18	0.15	0.04	4.57	794	343	173	145	21
Vikedal II	1984	0.51	0.24	0.27	0.24	0.25	4.57	1932	985	465	516	52
	1985	0.63	0.30	0.33	0.21	0.20	4.45	2223	1390	672	734	79
Løken	1973	1.03			0.06	4.48	569	586				19
	1974	0.94			0.08	4.43	831	781				31
	1975	1.03	0.41	0.42		0.08	4.32	657	677	269	276	31
	1976	1.20	0.49	0.50	0.40	0.09	4.39	533	640	261	267	22
	1977	0.96	0.41	0.43	0.22	0.07	4.41	699	671	287	301	27
	1978	1.10	0.48	0.52	0.24	0.07	4.25	597	657	287	310	34
	1979	1.03	0.49	0.57	0.30	0.07	4.22	784	808	384	447	47
	1980	0.97	0.39	0.49	0.25	0.08	4.33	695	674	271	341	33
	1981	0.77	0.36	0.51	0.20	0.06	4.48	700	539	252	357	23
	1982	1.06	0.60	0.79	0.24	0.11	4.33	585	908	515	679	40
	1983	0.91	0.47	0.62	0.28	0.10	4.42	656	595	311	404	25
	1984	0.91	0.49	0.76	0.30	0.10	4.45	747	678	365	567	27
	1985	0.86	0.47	0.51	0.30	0.09	4.36	894	768	421	459	39
Lillestrøm I	1984	1.04	0.45	0.62	0.36	0.06	4.41	741	767	332	458	29
	1985	1.07	0.43	0.90	0.35	0.07	4.46	801	854	347	722	28
Kaupanger	1984	0.31	0.12	0.12	0.12	0.10	4.79	734	230	87	88	12
	1985	0.35	0.14	0.12	0.09	0.05	4.68	769	267	109	90	16
Kise (week)	1982	0.96	0.53	0.74	0.24	0.04	4.34	484	464	255	357	22
	1983	0.97	0.43	0.67	0.33	0.06	4.45	394	362	161	249	13
	1984	0.79	0.36	0.56	0.31	0.05	4.63	629	497	223	354	15
	1985	0.72	0.39	0.45	0.31	0.05	4.47	715	518	277	318	24

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Table 24: Cont.

Station	Year	Annual mean conc. mg/l					Annual means pH	Annual prec. mm	Wet deposition			
		SO ₄ -S	NO ₃ -N	NH ₄ -N	Ca	Mg			SO ₄ -S	NO ₃ -N	NH ₄ -N	H ⁺
							2	2	2	2	2	mekv/m ²
Kise (month)	1975	0.88	0.10	0.35	0.24	0.05	4.36	335	295	34	117	15
	1976	1.24	0.40	0.61	0.36	0.07	4.40	378	469	151	231	15
	1977	1.32	0.34	0.73	0.32	0.07	4.50	344	454	117	251	11
	1978	1.97	0.49	0.83	0.56	0.10	4.24	203	400	99	168	12
	1979	1.40	0.38	0.81	0.39	0.05	4.33	399	559	152	323	19
	1980	1.10	0.35	1.68	0.55	0.17	4.60	457	503	160	768	11
	1981	1.24	0.42	0.55	0.53	0.06	4.38	325	403	137	179	14
	1982	1.25	0.55	0.81	0.71	0.07	4.44	319	400	177	258	12
	1983	1.49	0.49	0.83	0.57	0.10	4.44	295	441	145	244	11
	1984	1.27	0.44	0.66	0.47	0.06	4.37	456	580	199	300	19
	1985	1.23	0.50	0.57	0.30	0.05	4.25	410	505	205	234	23
As	1975	1.58	0.13	0.59	0.42	0.15	4.25	484	765	63	286	27
	1976	1.62	0.57	0.79	0.73	0.18	4.44	506	820	288	400	18
	1977	1.50	0.55	1.06	0.78	0.22	4.50	522	783	287	553	17
	1978	1.71	0.62	0.90	0.60	0.13	4.20	496	848	308	446	31
	1979	2.11	0.88	1.27	0.89	0.25	4.15	454	958	400	577	32
	1980	1.82	0.64	0.75	0.79	0.21	4.22	483	879	309	362	29
	1981	1.11	0.53	0.76	0.47	0.16	4.48	534	593	283	406	18
	1982**	1.30	0.59	0.82	0.51	0.18	4.47	695	901	411	572	23
	1983	1.52	0.71	0.67	0.77	0.23	4.38	458	694	324	308	19
	1984	1.50	0.68	1.01	0.73	0.23	4.47	573	857	389	580	19
	1985	1.00	0.57	0.53	0.46	0.10	4.39	782	782	449	416	32

** One month is missing.

Table 25: Monthly and annual mean concentrations of sulphur dioxide (SO_2) in air at the Norwegian background stations, 1985.
 Unit: $\mu\text{g S/m}^3$.

Table 26: Monthly and annual mean concentrations of sulphate (SO_4^{2-}) in air at the Norwegian background stations, 1985.
 Unit: $\mu\text{g S/m}^3$.

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RAPPORTTYPE TEKNISK RAPPORT	RAPPORTNR. TR 3/87	ISBN-82-7247-819-6	
DATO APRIL 1987	ANSV. SIGN. <i>J. Schjøldan</i>	ANT. SIDER 23	PRIS kr 20,-
TITTEL Precipitation and air chemistry at the Norwegian background stations, 1985	PROSJEKTLEDER E. Joranger NILU PROSJEKT NR. O-8118		
FORFATTER (E) Kari Hoem og Einar Joranger	TILGJENGELIGHET A OPPDRAGSGIVERS REF.		
OPPDRAKGIVER (NAVN OG ADRESSE) Norsk institutt for luftforskning			
3 STIKKORD (å maks. 20 anslag) Background stations Acid precipitation Air chemistry, 1985			
REFERAT (maks. 300 anslag, 7 linjer) Rapporten inneholder nedbørdata for 22 norske bakgrunnstasjoner i 1985. Den kjemiske sammensetning av nedbørprøvene er presentert som måneds- og årsverdier. Årsverdiene er også gitt for hver stasjon fra deres start. Luftkonsentrasjonene av svoveldioksid og partikulært sulfat er målt på 7 av stasjonene, og presentert som måneds- og årsmiddelverdier.			

TITLE Precipitation and air chemistry at the Norwegian background stations, 1985.	
ABSTRACT (max. 300 characters, 7 lines)	
The precipitation quality data measured in 1985 at 22 Norwegian background stations are presented. The chemical compositions are given as monthly and annual values. Annual values from the start of each station are also given. Air concentrations of sulphur dioxide and particulate sulphate were measured at 7 stations, and presented as monthly and annual averages.	

- * Kategorier: Apen - kan bestilles fra NILU A
- Må bestilles gjennom oppdragsgiver B
- Kan ikke utleveres C