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SVOVELFORURENSNINGER I LUFT OG NEDBØR  
DØGNMÅLINGER 1973

av

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1 INNLEDNING

Rapporten gir en oversikt over målinger av svovel-  
forurensninger i nedbør og luft som er utført i Norge i 1973  
i forbindelse med OECD-prosjektet "Long Range Transport of  
Air Pollutants" (LRTAP). Prosjektet går ut på å undersøke  
sammenhengen mellom utslipp, transport og nedfall av luft-  
forurensninger i Europa. Det startet offisielt 1. juli 1972  
og avsluttes i løpet av 1975.

Denne rapporten er en fortsettelse av NILU Teknisk notat nr  
52/73 (1), som omhandler måleresultater for perioden november  
1971 til juni 1972, og NILU Teknisk notat nr 65/73 (2), som  
omhandler måleresultater for 2. halvår 1972.

Resultatene som legges fram i denne rapporten er fra i alt  
23 målestasjoner. Stasjonene er plassert slik at de er minst  
mulig påvirket av lokale forurensningskilder. Målingene  
er derfor representative for bakgrunnsforurensningen over et  
større område.

Under avsnittene STASJONSPLASSERING, PRØVETAKING og KJEMISK ANALYSE AV PRØVENE er denne gang bare omtalt endringer som er foretatt i 1973. For nærmere detaljer henvises det til de to tidligere rapporter (1, 2).

Som tidligere har en stor del av NILU's personale vært engasjert i drift av målestasjonene og analyse av prøvene. Teknisk assistent Vidar Lurud har hatt ansvaret for det tekniske tilsyn med stasjonene, og ingeniørene Odd Anda og Jan Erik Skjelmoen har ledet analysearbeidet. En vesentlig del av analysene er utført av laborant Liv Quande og laboratorie-assistent Gertrud Lund.

Institutt for Atomenergi (IFA) har foretatt bestemmelsen av sulfat på luftfiltrene.

## 2 STASJONSPLASSERING

Tabell 1 viser samtlige norske stasjoner som har vært i drift i LRTAP-prosjektet. I 1973 er to stasjoner blitt nedlagt og fire nye stasjoner opprettet. Figur 1 viser kart over stasjoner som har vært i drift i 1973.

I februar 1973 ble stasjon Kjeller nedlagt på grunn av praktiske forhold. Denne delen av Østlandet anses godt dekket ved stasjonene Løken og Bislingen. Samtidig ble stasjon Norefjell nedlagt fordi den syntes å være påvirket av lokal forurensning. I august 1973 ble stasjon Lyngør flyttet ca 1 km til Lyngør fyr på grunn av praktiske forhold.

Av de fire stasjonene som er opprettet i 1973 ble to, Hummel-fjell og Vatnedalen, satt i gang som en del av det norske måleprogrammet i LRTAP-prosjektet. De to andre,

Treungen og Fillefjell, er opprettet i forbindelse med prosjektet "Sur nedbørs virkning på skog og fisk" (SNSF-prosjektet) som er et fellesprosjekt mellom Norges landbruksvitenskapelige forskningsråd og Norges Teknisk-Naturvitenskapelige Forskningsråd. Mellom SNSF-prosjektet og LRTAP-prosjektet er det et utstrakt samarbeid.

Nedenfor følger en kort beskrivelse av Lyngør og de fire nye stasjonene.

- N 23 Lyngør: Ligger ca 20 m fra Lyngør fyr, ca 3 m.o.h. Øya som stasjonen ligger på, er ca 400 x 300 m. Stasjonen ligger i havgapet med en del lave øyer omkring. Avstanden til Lyngør er ca 1 km mot vest.
- N 25 Hummelfjell: Ligger i Nord-Østerdal på en fjelltopp, Gråhøgda, 1500 m.o.h., på en av Luftforsvarets stasjoner. Avstanden til nærmeste by, Røros, er 20 km mot nordøst. Stasjonen ligger om lag 1000 m høyere enn dalbunnen som er relativt tynt befolket.
- N 26 Treungen: Ligger 300 m.o.h. i den sørlige enden av innsjøen Nisser, som er 35 km lang, retning nord-sør. Åsene omkring ligger opptil 500 m høyere enn vannet, og åssidene skråner forholdsvis bratt ned mot Nisser. Stasjonen ligger i utkanten av tettstedet Treungen og om lag 50 m høyere enn dette. Området er ellers tynt befolket.

N 27 Vatnedalen:

Ligger i Bykle i Aust-Agder, 800 m.o.h. Stasjonen ligger ved en sidedal vest for Setesdal, sørvendt og i relativt åpent lende. Fjellene omkring er 1300-1400 m høye. Bykle sentrum ligger 15 km sør for stasjonen. Området er ellers svært tynt befolket.

N 28 Fillefjell:

Ligger 960 m.o.h. nær vannskillet mellom Valdres og Sogn. Fjelltoppene er 500-700 m høyere enn dalbunnen, som er ca 1 km bred. Stasjonen ligger i dalbunnen. Området er svært tynt befolket. Nedbør-samleren er plassert ca 150 m fra Meteorologisk Institutt's stasjon Kyrkjestølane.

Nr	Navn	Høyde over havet (m)	Bredde N	Lengde E	Start	Slutt	Luft	Ned- bør	MI
1	Birkenes	190	58°23'	8°15'	1/11-71		x	x	
2	Byglånd	215	58°50'	7°48'	1/11-71	17/4-71	x	x	
3	Finsland	275	58°19'	7°35'	1/11-71		x	x	x
4	Flødevigen	10	58°26'	8°45'	1/11-71	17/4-72	x	x	
5	Gjerstad	240	58°53'	8°57'	1/11-71			x	x
6	Lista	13	58°06'	6°34'	1/11-71			x	x
7	Mandal	138	58°03'	7°27'	1/11-71			x	x
8	Skreådalen	475	58°49'	6°43'	1/11-71			x	x
9	Søyland	263	58°41'	5°59'	1/11-71		x	x	x
10	Tovdal	227	58°48'	8°14'	1/11-71			x	x
11	Bjørkhaug	324	61°38'	7°16'	25/6-71	1/7-72		x	x
12	Førde	42	61°28'	5°51'	25/6-71	15/7-72		x	x
13	Kinn	10	61°34'	4°48'	25/6-71	1/7-72		x	x
14	Skei i Jølster	205	61°34'	6°29'	25/6-71			x	x
15	Tustervatn	439	65°50'	13°55'	28/12-71			x	x
16	Tågmyra	536	61°25'	12°04'	26/12-71			x	x
17	Kjeller	120	59°59'	11°03'	2/2-72	1/2-73		x	
18	Løken	150	59°48'	11°27'	26/2-72			x	
19	Bislingen	680	60°14'	10°37'	26/3-72			x	
20	Grimelid	367	60°08'	9°36'	25/3-72			x	x
21	Norefjell	810	60°13'	9°31'	27/3-72	1/2-73	x	x	
22	Vasser	35	59°04'	10°26'	17/4-72		x	x	
23	Lyngør	20	58°38'	9°08'	18/4-72		x	x	x
24	Fitjar	20	59°55'	5°19'	29/7-72			x	x
25	Hummelfjell	1540	62°27'	11°16'	1/2-73		x	x	
26	Treungen	270	59°01'	8°32'	1/9-73		x	x	
27	Vatnedalen	800	59°28'	7°23'	1/11-73			x	
28	Fillefjell	960	61°11'	8°08'	1/6-73			x	x

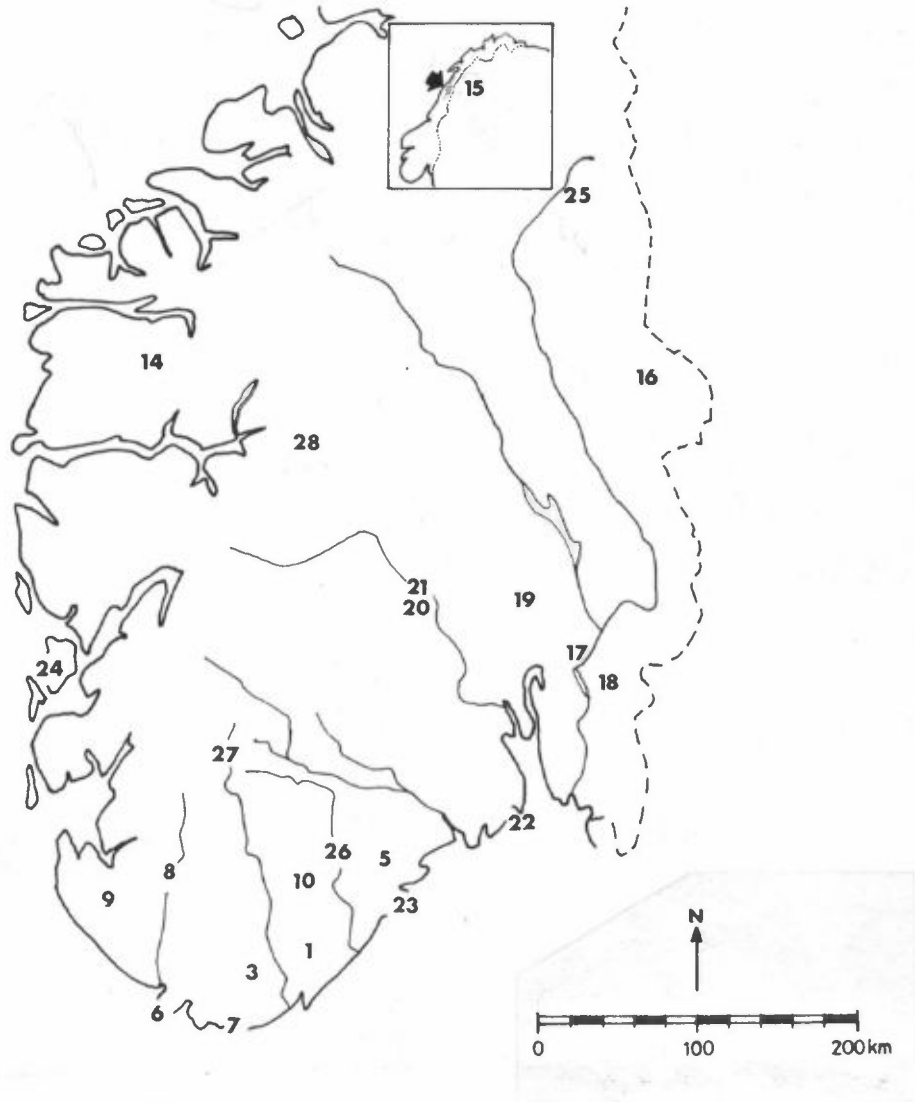
Luft : Luftprøvetaking

Nedbør : Nedbørprøvetaking

MI : Nedbørstasjon for Meteorologisk Institutt

Tabell 1: Stasjonsliste.

List of stations.



Figur 1: Kart over stasjoner som har vært i drift i 1973.

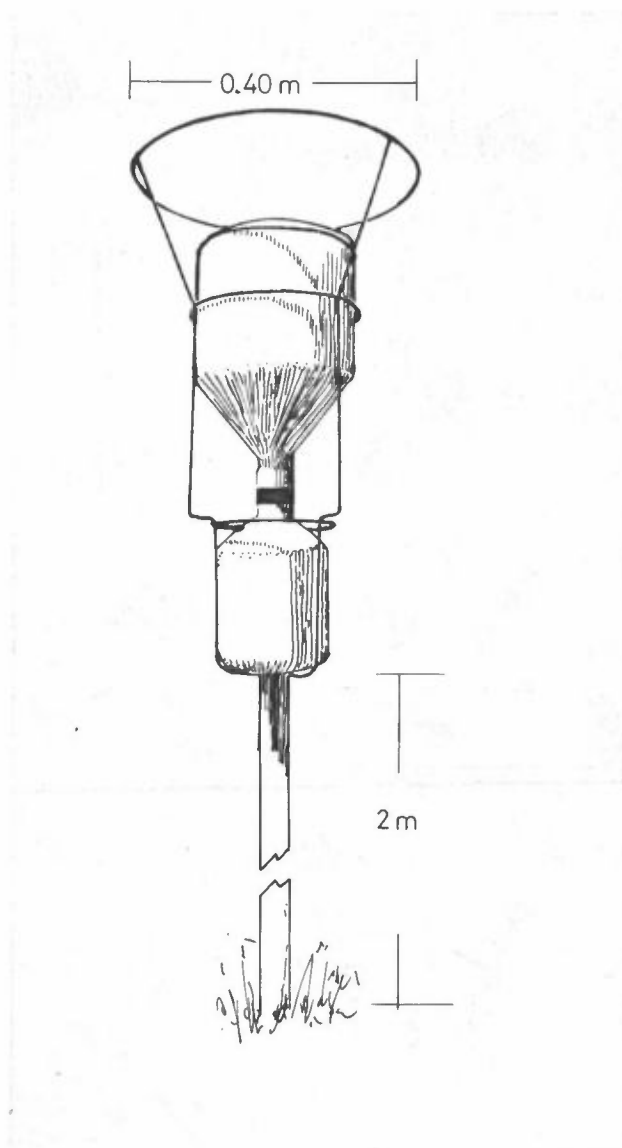
Map of stations operated in 1973.



### 3 PRØVETAKING

I løpet av våren 1973 ble en ny type nedbørsamler tatt i bruk. Denne skal bare brukes ved regn (ikke snø) og skal redusere fordampningen fra samleren til et minimum. Den nye regnsamleren er vist i figur 2.

På stasjon Hummelfjell tas ikke nedbørprøver, men isingsprøver. Luftfuktigheten avsetter seg som is på tynne aluminiums-sylindre. Isen smeltes og analyseres på de samme komponentene som nedbørprøver.



Figur 2: Regnsamler.

Rain-collector.

#### 4 KJEMISK ANALYSE AV PRØVENE

Ingen endringer er foretatt siden forrige rapport. Som tidligere er det målt mengde, pH og innhold av sulfat, sterk syre og magnesium i nedbørprøvene. Magnesium brukes til å korrigere sulfatmengden for bidrag fra havsalt. I luftprøvene er svoveldioksyd og sulfatpartikler bestemt.

#### 5 RESULTATER OG DISKUSJON

Mange av stasjonene har nedbørmåling både for Meteorologisk Institutt (MI) og NILU. Som regel stemmer MI's og NILU's nedbørverdier godt overens. På enkelte stasjoner har en imidlertid observert avvik, til dels store. Dette skyldes delvis at flere av MI's samlere er utstyrt med vindskjerm, mens NILU's samlere ikke har vindskjerm. Delvis skyldes det også at NILU har andre krav til stasjonsplassering enn MI, fordi NILU søker å unngå forurensningsbidrag fra lokale kilder som ved- og oljefyrte hus, siloer, fjøs etc.

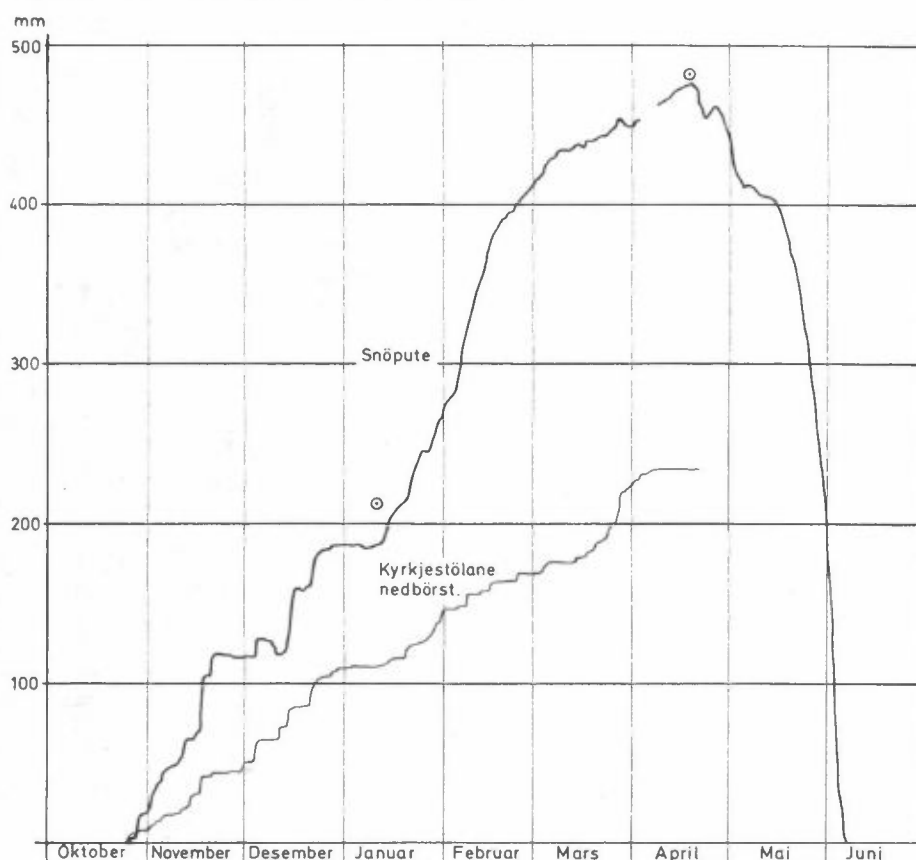
Den nye nedbørsamleren til NILU skulle redusere forskjeller på grunn av fordampning til et minimum.

De to stasjonene som har hatt størst avvik er Søyland og Fillefjell. På Søyland er et relativt lite antall NILU-verdier korrigert slik at de stemmer overens med MI-verdiene. Disse verdiene er ikke markert i utskriftene, men de er merket på NILU's datakort slik at de kan tas ut f.eks. ved statistisk analyse.

For Fillefjell har en valgt å bruke MI's verdier for hele perioden. Denne stasjonen ligger relativt høyt og er sterkt utsatt for vind.

Stasjon Fillefjell ligger i et av de nedbørfeltene der Norges Vassdrags- og Elektrisitetsvesen (NVE) driver målinger som et ledd i den Internasjonale Hydrologiske Dekade (IHD). NVE har her foretatt nedbørmålinger med forskjellige typer samlere. Om vinteren er det blant annet gjort forsøk med snøpute. En del resultater herfra er rapportert av Tollan (3). En snøpute er en snømåler som ligger i bakkenivå og som derfor får samme vindforhold som bakken ellers.

Figur 3 viser en sammenlikning mellom snøputeregistrering og MI's nedbørmåler på Fillefjell (Kyrkjestølane). En ser at vinteren 1967-68 viste snøputeregistreringen om lag dobbelt så mye akkumulert nedbør som MI's nedbørmåling. Dette illustrerer tydelig at dersom en nedbørsamler på stativ er utsatt for vind, blir den registrerte nedbørmengde klart mindre enn det som treffer bakken. Dette gjelder særlig for snø, men også i noen grad for regn.



Figur 3: Snøputeregistrering og sum av nedbør, Fillefjell (Kyrkjestølane) 1967-68 (3).

Snow pillow registration and accumulated precipitation, Fillefjell (Kyrkjestølane) 1967-68 (3).

Måleresultater og en del oversiktsberegninger fra NILU-stasjonene er gjengitt i bilagene 1 - 12. I det følgende blir det gitt korte kommentarer til de enkelte bilagene. Videre er det tegnet opp nedfallskart for sulfat og sterk syre.

Bilag 1 side 31-108 viser døgnverdier for de målte størrelser for alle stasjonene. De oppførte datoer er å forstå på følgende måte: En prøve som i tabellen er datert f.eks. 4. august, har vært eksponert fra 4. august kl 08 til 5. august kl 08.

- a) Nedbør (mm) i NILU's nedbørsamler.
- b) Offisielle nedbørdata (mm) fra MI for de stasjonene som også har måler for MI. I tabellen har en brukt betegnelsen 0.0 både for det som MI kaller "ingen nedbør" og det som kalles "ubetydelig nedbør".
- c) Magnesium i nedbør. Tabellen gir konsentrasjonen av magnesiumioner i mg/l. For Hummelfjell er oppgitt magnesium i isingsprøvene.
- d) Sulfat i nedbør. Tabellen gir konsentrasjonen av sulfationer i mg/l. Verdiene er korrigert for havsalt. For Hummelfjell er oppgitt sulfat i isingsprøvene.
- e) pH i nedbør.
- f) Sterk syre i nedbør. Tabellen gir konsentrasjonen av H<sup>+</sup>-ioner fra sterke syrer i  $\mu\text{ekv/l}$ . Bestemmelse av sterk syre er nærmere forklart i (1). For Hummelfjell er oppgitt sterk syre i isingsprøvene.

- g) Svoveldioksyd i luft. Her oppgis konsentrasjonen av svoveldioksyd i  $\mu\text{g}/\text{m}^3$  for de stasjoner som har luftprøvetaking.
- h) Sulfatpartikler i luft. Dette er beregnet konsentrasjon av sulfat i form av svevestøv for de stasjoner som har luftprøvetaking, oppgitt i  $\mu\text{g}/\text{m}^3$ .
- i) Sulfatnedfall, som er produktet av nedbørmengden og konsentrasjonen av sulfat i nedbøren (tabellene a og c). For Fillefjell har en brukt tabellene b og c. Enheten er  $\text{mg}/\text{m}^2$ .
- j) Nedfall av sterk syre, som er nedbørmengde multiplisert med konsentrasjonen av sterk syre, tabellene a og e. For Fillefjell har en brukt tabellene b og c. Enheten er  $\text{mekv}/\text{m}^2$ .

I bilag 2 er vist en fullstendig månedstabell for en stasjon. Kopi av disse tabellene kan sendes til spesielt interesserte.

#### 5.1 Forurensninger i nedbør

Bilagene 3 - 7 gir månedsoversikter på grunnlag av døgnverdiene, og viser månedlig nedfall av de forskjellige stoffene.

Bilag 3 side 110 viser månedlig nedfall av sulfat for hver stasjon. Tallene har benevning  $\text{mg}/\text{m}^2$ , som tilsvarer  $\text{g}/\text{dekar}$  eller  $\text{kg}/\text{km}^2$ . En finner de høyeste verdiene på Sørlandet og de sørligste stasjonene på Østlandet og Vestlandet. Høyeste månedsverdi hadde Mandal i januar med  $958 \text{ mg}/\text{m}^2$ . Nest høyeste månedsverdi hadde Birkenes i januar med  $697 \text{ mg}/\text{m}^2$ . Høyeste døgnverdi hadde Fitjar 2. juli med  $265 \text{ mg}/\text{m}^2$ . Stasjonene på Sørlandet hadde mest nedfall i januar og mai.

Bilag 4 side 111 viser pH i nedbøren beregnet som veid måneds-  
middel. De fleste verdiene ligger mellom pH=4.0 og pH=5.0.  
Laveste månedsmiddel hadde Mandal og Lyngør i januar med  
pH=4.0. Laveste døgnverdi hadde Hummelfjell 25. mars med  
pH=3.30. Laveste døgnverdi på Sørlandet hadde Birkenes  
3. november med pH=3.35. Verdiene for 1973 ligger stort sett  
høyere enn tilsvarende for 1972.

Bilag 5 side 112 viser nedfall av sterk syre i mekv/m<sup>2</sup>.  
Resultatene likner de for sulfatnedfall, bilag 3. Høyeste  
månedsverdi hadde Mandal i januar med 14.1 mekv/m<sup>2</sup>. Nest  
høyeste månedsverdi hadde Birkenes i januar med 12.7  
mekv/m<sup>2</sup>. For nedfall av sterk syre lå verdiene for 1973  
for det meste lavere enn de for 1972.

Bilag 6 side 113 viser nedfallet av sterk syre beregnet som  
kg svovelsyre pr km<sup>2</sup>. Verdiene fremkommer ved at tallene i  
bilag 5 multipliseres med 49. Dersom nedfallet av sterk syre  
er negativt, er svovelsyrenedfallet satt lik 0.

Bilag 7 side 114 viser hvor stor prosent av sulfatnedfallet  
som foreligger som svovelsyre. Hvordan dette tallet er  
beregnet, er forklart i (1) side 13. Prosenttallet fremkommer  
ved at nedfallet av sterk syre (mekv/m<sup>2</sup>) multipliseres med  
4800 og divideres med nedfallet av sulfat (mg/m<sup>2</sup>). I svovel-  
syre er vektforholdet mellom sulfat-ioner og hydrogenioner  
lik 48.

Der prosenttallet er over 100, betyr det at andre sterke  
syrer enn svovelsyre, f.eks. salpetersyre har vært til  
stede. Ved lave verdier eller verdier lik null er syrene  
delvis eller helt nøytralisert av sterke eller svake baser.  
Den vesentligste syrenøytraliserende komponent er ammoniakk.

Det er foretatt en del enkle regresjonsanalyser for å bestemme den lineære sammenhengen mellom målte konsentrasjoner av sulfat og sterk syre. Resultater for stasjonene Birkenes, Mandal, Bislingen, Grimelid, Vasser og Fitjar er gjengitt i bilag 8, side 115-116. Sammenhengen varierte svært fra stasjon til stasjon. Nedbør fra Birkenes og Mandal hadde en sammensetning som nær svarer til svovelsyre, men med et lite overskudd av sulfat. Korrelasjonskoeffisienten var høy. Grimelid hadde en liknende sammensetning, men korrelasjonskoeffisienten var lavere. Stasjonene Bislingen, Vasser og Fitjar avvek mer eller mindre fra de tre øvrige. For Bislingen var korrelasjonskoeffisienten nær null, -0.02.

Bilag 9 side 117 viser månedlig nedbør (mm) som er oppsamlet i NILU's nedbørsamler.

Bilag 10 side 118 viser beregnet totalnedfall og middelverdier for hele 1973 for hver stasjon. Følgende verdier er regnet ut på årsbasis:

- Nedfall sulfat ( $\text{mg}/\text{m}^2$ )
- Nedfall sterk syre ( $\text{mekv}/\text{m}^2$ )
- Prosent svovelsyre (%)
- Beregnet nedfall svovelsyre ( $\text{tonn}/\text{km}^2$ )
- Nedbør i NILU-samler (mm)
- Midlere konsentrasjon av sulfat i nedbør ( $\text{mg}/\ell$ )
- Midlere konsentrasjon av sterk syre i nedbør ( $\mu\text{ekv}/\ell$ )

Middelkonsentrasjonen av sulfat og av sterk syre i nedbøren er beregnet ved å dividere nedfallet i 1973 med nedbørmengden. Dette gir veid aritmetisk middel av konsentrasjonene.

En ser at Mandal hadde det største nedfallet av sulfat. Deretter kom Birkenes og Fitjar. Birkenes hadde det største nedfallet av sterk syre.

Dersom en ser på gjennomsnittlig konsentrasjon av sulfat og sterk syre i nedbøren, hadde Vasser høyest årsmiddelkonsentrasjon av sulfat. Deretter kom Lyngør og Mandal. Fitjar hadde relativt lav konsentrasjon. Birkenes hadde høyest middelkonsentrasjon av sterk syre. Det er grunn til å fremheve at konsentrasjonene av sulfat og sterk syre i bilag 10 er årsgjennomsnitt. Spesielt i forbindelse med små nedbørmengder kan konsentrasjonene være langt høyere.

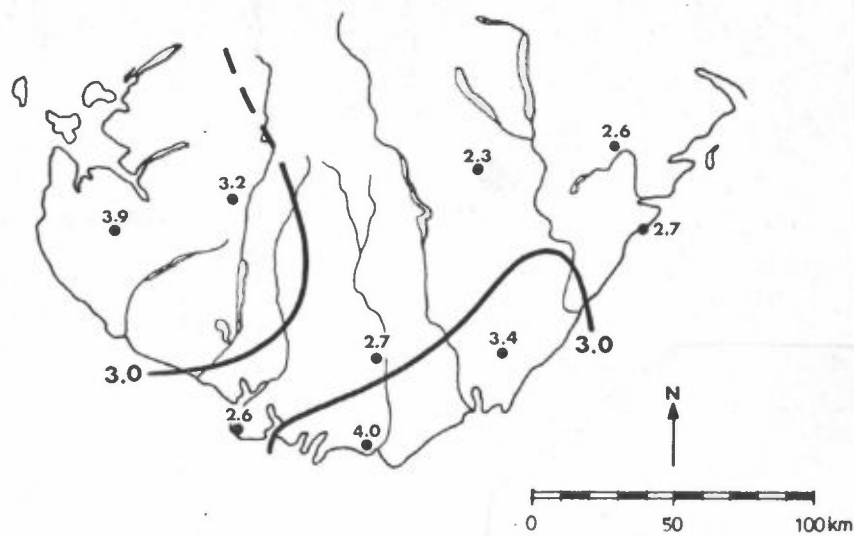
Figur 4 og 5 side 15 viser kart over sulfatnedfall og beregnet nedfall av svovelsyre for Sørlandet. Siden antallet stasjoner er begrenset, gir dette kartet bare en relativt grov oversikt. Nedbøren varierer ofte svært for stasjoner med forskjellig beliggenhet selv om avstanden er liten. Slike detaljer kan selvsagt ikke kartene belyse.

På begge kartene har tallene benevnning  $g/m^2$  som tilsvarer  $kg/dekar$  eller  $tonn/km^2$ .

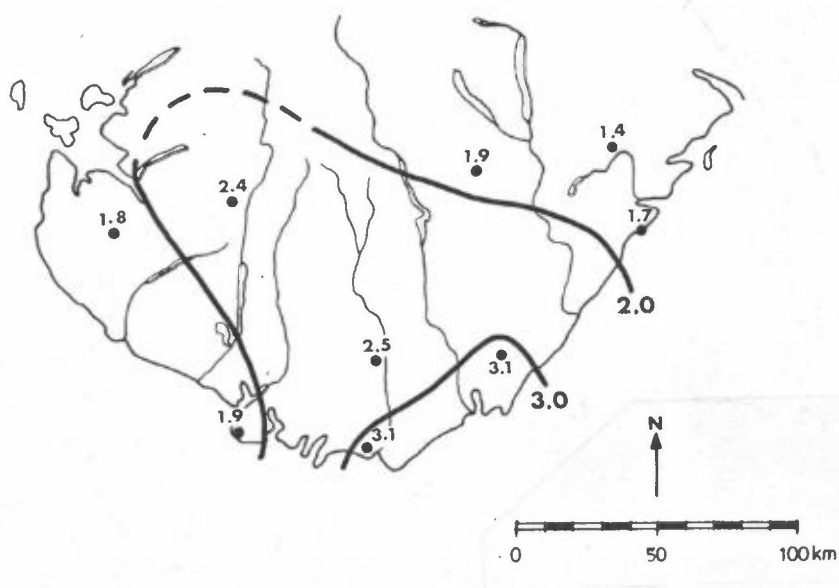
Nedfallet av svovelsyre var av størrelse 1-3  $g/m^2$  (som tilsvarer 1-3  $tonn/km^2$ ) for 1973. Dette er vesentlig lavere enn nedfallet i 1972 (2). Denne forskjellen skyldes de meteorologiske forholdene, som kan variere sterkt fra et år til et annet.

Som fremhevet tidligere (1, 2) kommer en vesentlig del av nedfallet i forbindelse med episoder av få døgns varighet. Dette illustreres i figur 6 der en har tegnet opp akkumuleringskurven for sulfat i nedbør for stasjon Grimelid. På samme figur har en tegnet opp akkumulert nedbør på tilsvarende dager. På figuren viser ordinaten akkumulert nedfall av sulfat og nedbør i prosent, mens abscissen viser nedbørdøgn ordnet etter avtakende sulfatnedfall. En ser at





Figur 4: Nedfall av sulfat, Sørlandet (1973) ( $\text{g}/\text{m}^2$ ).  
Precipitated sulphate, Sørlandet (1973) ( $\text{g}/\text{m}^2$ ).



Figur 5: Beregnet nedfall av svovelsyre, Sørlandet 1973 ( $\text{g}/\text{m}^2$  eller  $\text{tonn}/\text{km}^2$ ).  
Precipitated sulphuric acid, Sørlandet 1973 ( $\text{g}/\text{m}^2$  or  $\text{tonnes}/\text{km}^2$ ).

ca 75% av sulfatnedfallet kom i løpet av 20 nedbørdøgn, mens de samme nedbørdøgn bare ga 40% av årsnedbøren. Tilsvarende forhold finner en for de fleste stasjonene. Det vil si at en dels har forurenset nedbør og dels nedbør med svært lite eller ingen forurensning.

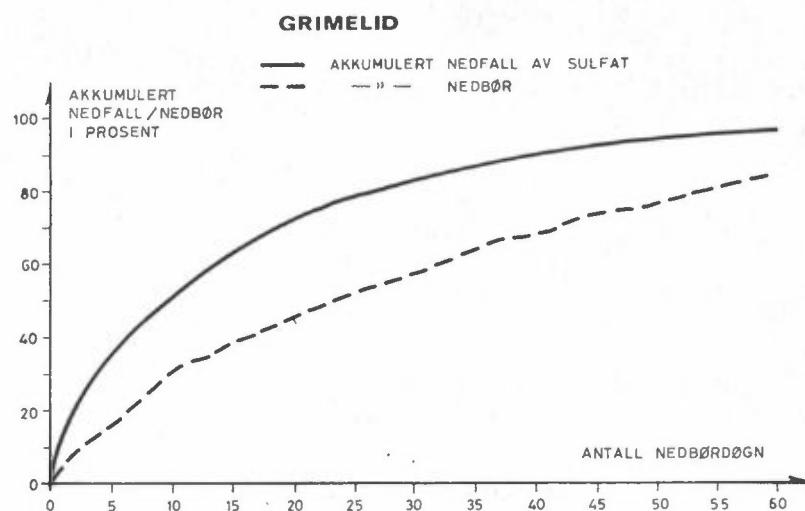
I figur 7 er tilsvarende kurver tegnet opp for Vasser. I dette tilfelle ligger de to kurvene svært tett. Dette må tolkes slik at nedbøren på Vasser er forurenset hele tiden, og at konsentrasjonen av sulfat i nedbøren ikke varierer særlig mellom hvert enkelt nedbørtilfelle.

Dette kan forklares ved at Vasser ligger i et større kildeområde med bidrag fra Vestfold, Østfold, Oslo-området og Vest-Sverige i tillegg til bidraget fra resten av Europa. Nedbøren vil derfor være forurenset uansett hvilken retning luftmassene kommer fra.

Bilag 11 side 119 viser nedfall av sulfat og sterk syre for tre episoder i 1973, nemlig 20. - 22. januar og 30. - 31. mai. Andre tilfeller med mye nedfall over større områder var 14. - 15. januar, 30. april, 5. - 9. mai, 3. juli, 7. juli, 29. - 30. august, 21. september, 27. - 28. september og 3. - 4. november.

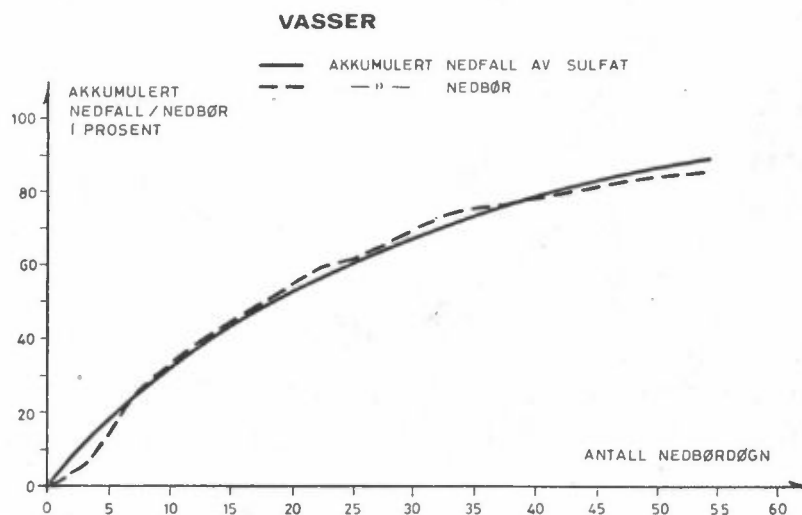
Av bilag 11 ser en at episoden 20. - 22. januar vesentlig var lokalisert til Agder-fylkene, mens episoden 30. - 31. mai ga mye nedfall over store deler av Østlandet, Sørlandet og søndre deler av Vestlandet.

Figur 8 og 9 viser kart over nedfall av sulfat i de to episodene for Sørlandet.



Figur 6: Akkumulert nedbør og nedfall av sulfat, Grimelid 1973.

Accumulated wet precipitation and sulphate, Grimelid 1973.

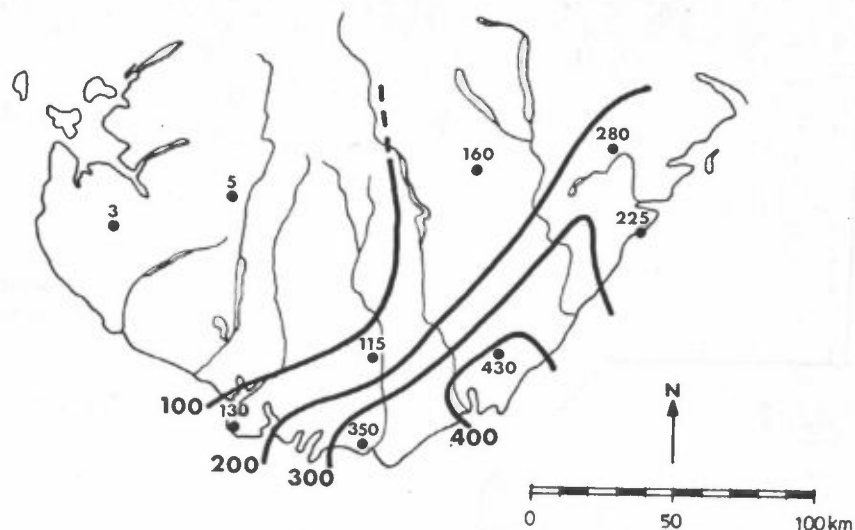


Figur 7: Akkumulert nedbør og nedfall av sulfat, Vasser 1973.

Accumulated wet precipitation and sulphate, Vasser 1973.

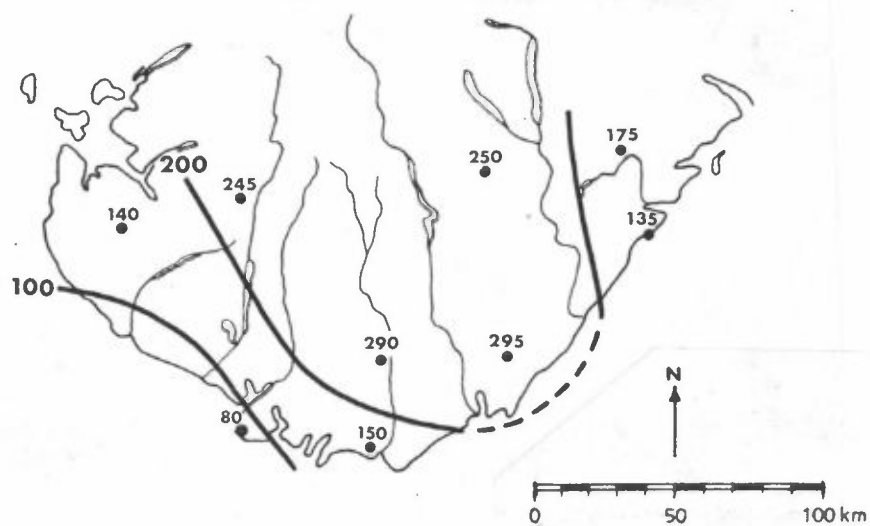
I den første av disse var nedfallet konsentrert om de søndre delene av Aust- og Vest-Agder. Nedfallet avtok sterkt innover i landet.

I den andre episoden var nedfallet jevnt fordelt over Agderfylkene og Rogaland, og det var liten forskjell mellom indre og ytre strøk.



Figur 8: Nedfall av sulfat, Sørlandet  
20. - 22. januar 1973 (mg/m<sup>2</sup>).

Precipitated sulphate, Sørlandet  
20. - 22. January 1973 (mg/m<sup>2</sup>).



Figur 9: Nedfall av sulfat, Sørlandet  
30. - 31. mai 1973 (mg/m<sup>2</sup>).

Precipitated sulphate, Sørlandet  
30. - 31. mai 1973 (mg/m<sup>2</sup>).

## 5.2 Forurensninger i luft

Døgnmålinger av svoveldioksyd (SO<sub>2</sub>) og sulfatpartikler (SO<sub>4</sub><sup>2-</sup>) i luft har foregått på i alt åtte stasjoner: Birkenes, Finsland, Søyland, Norefjell, Vasser, Lyngør, Hummelfjell og Treungen. Av disse har Norefjell bare vært i drift i januar, Hummelfjell fra og med februar og Treungen fra og med september. De øvrige stasjonene har vært i drift hele året.

Målingene viser som regel lave verdier både for svoveldioksyd og sulfat idet 50-70% av døgnverdiene er lavere enn 5 µg/m<sup>3</sup>. Månedsmiddelverdiene for svoveldioksyd og sulfat er gjengitt i tabell 2 og 3. Verdiene for svoveldioksyd i tabell 2 er noe usikre fordi mange av døgnverdiene er så lave at målemetoden ikke er pålitelig. En viss indikasjon kan imidlertid tabellen gi. Ellers ser en at Vasser stort sett hadde de høyeste verdiene både for svoveldioksyd og sulfat.

Månedsmiddel	jan	feb	mars	apr	mai	jun	jul	aug	sept	okt	nov	des
1 Birkenes	7	2	3	1	7	8	8	9	6	5	2	5
3 Finsland	5	3	4	3	4	4	5	4	2	7	6	3
9 Søyland	10	3	4	2	1	3	2	3	3	3	2	6
21 Norefjell	12											
22 Vasser	14	6	8	4	7	4	7	4	4	9	7	8
23 Lyngør	4	4	4	2	3	3	4	5	4	4	4	7
25 Hummelfjell		2	3	2	2	2	1	4	7	3	3	4
26 Treungen									3	3	1	3

Tabell 2: Månedsmiddelverdier for svoveldioksyd (µg/m<sup>3</sup>).

Monthly mean values of sulphur dioxide (µg/m<sup>3</sup>).

Månedsmiddel	jan	feb	mars	apr	mai	jun	jul	aug	sept	okt	nov	des
1 Birkenes	2.2	1.1	3.9	1.3	3.9	2.1	3.8	2.7	2.0	1.8	1.8	2.6
3 Finsland	2.1	1.2	4.1	0.6	2.3	2.4	2.9	2.4	1.6	1.5	1.6	2.3
9 Søyland	1.7	1.0	3.8	1.7	3.6	2.6	2.5	2.2	1.3	1.8	1.3	1.9
21 Norefjell	1.1											
22 Vasser	5.2	1.9	4.8	1.9	5.1	2.5	4.1	3.8	2.4	2.9	4.3	5.4
23 Lyngør	3.6	1.2	3.4	1.3	4.3	2.4	3.2	2.4	1.4	1.1	2.2	3.5
25 Hummelfjell		1.2	1.4	1.6	1.8	2.0	3.5	2.5	0.8	0.5	0.6	0.8
26 Treungen												0.0

Tabell 3: Månedsmiddelverdier for sulfatpartikler ( $\mu\text{g}/\text{m}^3$ ).

Monthly mean values of sulphate particles ( $\mu\text{g}/\text{m}^3$ ).

Totalt hadde en 78 observasjoner i 1973 der enten svoveldioksyd eller sulfat forekom i konsentrasjon høyere enn  $20 \mu\text{g}/\text{m}^3$ . Av disse forekom 51, dvs 65%, ved nedbør mindre enn 1 mm. En kan imidlertid ikke slutte av dette at høye luftkonsentrasjoner oftest opptrer ved liten eller ingen nedbør, fordi en da må sammenlikne med antall dager totalt med liten eller ingen nedbør. På Birkenes hadde 70% av dagene mindre enn 1 mm nedbør i 1973. I tilfeller med transport av forurensninger sørfra kan en ha mye nedbør og høye luftkonsentrasjoner samtidig, jfr. bilag 12.

Fordelingen av høye verdier på de enkelte stasjonene er vist i tabell 4 og 5. Tabell 4 viser antall observasjoner av svoveldioksyd høyere enn  $10 \mu\text{g}/\text{m}^3$ , fordelt månedsvis på de ulike stasjonene. Tabell 5 viser tilsvarende for sulfat. En ser at Vasser hadde flest høye verdier både for svoveldioksyd og sulfat.

Antall dg > 10 $\mu\text{g}/\text{m}^3$	Jan.	Febr.	Mars	Apr.	Mai	Jun.	Juli	Aug.	Sept.	Okt.	Nov.	Des.	År
1 Birkenes	8	0	1	1	9	6	6	9	2	3	1	4	50
3 Finsland	5	1	1	2	2	5	3	3	2	7	3	3	37
9 Søyland	10	1	8	0	0	1	0	1	2	2	1	7	33
21 Norefjell	13												
22 Vasser	21	4	11	2	6	2	5	3	4	10	6	9	83
23 Lyngør	5	0	1	0	1	1	4	4	6	2	3	4	31
25 Hummelfjell		1	2	0	0	1	0	2	7	0	2	3	18
26 Treungen									0	2	0	2	

Tabell 4: Antall dager med  $\text{SO}_2$ -konsentrasjon større enn  $10 \mu\text{g}/\text{m}^3$ .

Number of days with  $\text{SO}_2$  concentration higher than  $10 \mu\text{g}/\text{m}^3$ .

Antall dg > 10 $\mu\text{g}/\text{m}^3$	Jan.	Febr.	Mars	Apr.	Mai	Jun.	Juli	Aug.	Sept.	Okt.	Nov.	Des.	År
1 Birkenes	0	0	2	0	2	0	3	1	0	1	1	1	11
3 Finsland	0	0	3	0	0	0	2	1	0	1	0	2	9
9 Søyland	0	0	3	0	2	0	1	0	0	1	0	0	7
21 Norefjell	0												
22 Vasser	4	0	3	0	2	0	3	3	0	2	2	6	25
23 Lyngør	1	0	3	0	3	0	1	1	0	0	1	3	13
25 Hummelfjell		0	0	0	0	0	0	1	0	0	0	0	1
26 Treungen													0

Tabell 5: Antall dager med  $\text{SO}_4^{--}$ -konsentrasjon høyere enn  $10 \mu\text{g}/\text{m}^3$ .

Number of days with  $\text{SO}_4^{--}$  concentration higher than  $10 \mu\text{g}/\text{m}^3$ .

Høyeste verdi for svoveldioksyd hadde Norefjell 22. januar med  $77 \mu\text{g}/\text{m}^3$ . Nest høyeste hadde Birkenes 30. juni med  $68 \mu\text{g}/\text{m}^3$ .

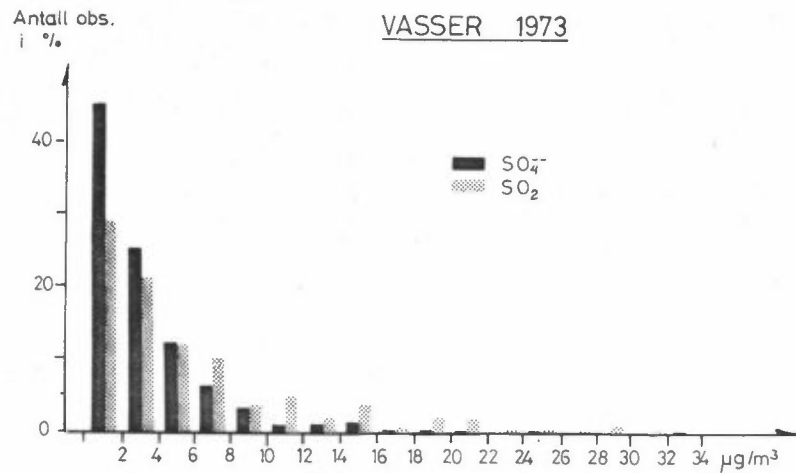
Høyeste verdi for sulfat hadde Vasser 4. november med  $51.7 \mu\text{g}/\text{m}^3$ . Nest høyeste verdi hadde Vasser 24. mars med  $33.7 \mu\text{g}/\text{m}^3$ .

Fordelingen er undersøkt nærmere for to stasjoner, Birkenes og Vasser. Fordelingene er vist i figur 10 (Birkenes) og figur 11 (Vasser). Ordinaten angir antall observasjoner i prosent, mens abscissene angir luftkonsentrasjonene fordelt på intervaller. Fordelingen er logaritmisk.

Bilag 12 side 120 viser eksempler på tre døgn da et flertall av stasjonene hadde høye verdier. I tabellen er det også tatt med mm nedbør (i NILU-samleren) og pH i nedbøren. En ser at høye luftkonsentrasjoner forekommer ved relativt lav pH, mens nedbørmengden varierer sterkt. En merker seg at forholdet  $\text{SO}_2/\text{SO}_4^{--}$  er svært forskjellig de tre dagene. Den første, 21. januar, hadde mye  $\text{SO}_2$  i forhold til  $\text{SO}_4^{--}$ , den neste, 24. mars, hadde lite  $\text{SO}_2$  i forhold til sulfat, mens den siste, 4. november, hadde omtrent like mye  $\text{SO}_2$  som  $\text{SO}_4^{--}$ .

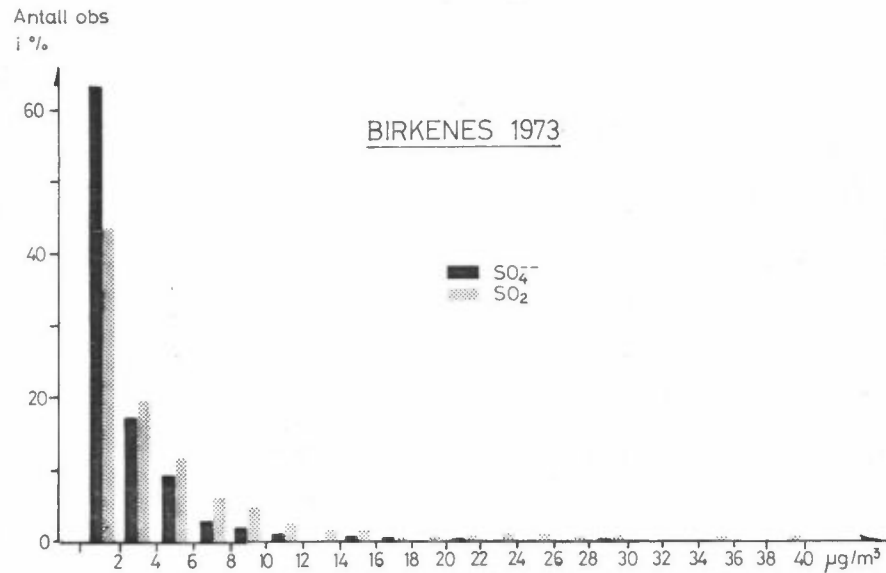
Dersom en sammenlikner verdiene for svoveldioksyd med svenske normer, (4) finner en at målingene ligger langt under den svenske normen for døgnverdi, som er  $280 \mu\text{g}/\text{m}^3$ .





Figur 10: Relativ fordeling av observasjoner av svoveldioksyd (SO<sub>2</sub>) og sulfat (SO<sub>4</sub><sup>2-</sup>), Vasser 1973.

Relative distribution of air concentrations of sulphur dioxide (SO<sub>2</sub>) and sulphate (SO<sub>4</sub><sup>2-</sup>), Vasser 1973.



Figur 11: Relativ fordeling av observasjoner av svoveldioksyd (SO<sub>2</sub>) og sulfat (SO<sub>4</sub><sup>2-</sup>), Birkenes 1973.

Relative distribution of air concentrations of sulphur dioxide (SO<sub>2</sub>) and sulphate (SO<sub>4</sub><sup>2-</sup>), Birkenes 1973.

Når det gjelder sulfatpartikler har en ennå ikke normer i Europa, men dette vil antakelig komme fordi sulfat er satt i forbindelse med halsirritasjoner i USA (5). I to stater i USA, Missouri og Montana, er det satt en grenseverdi på  $12 \mu\text{g}/\text{m}^3$  sulfat som tillates overskredet 1% av tiden (4). På Birkenes var 2% av døgnmålingene av sulfat høyere enn  $12 \mu\text{g}/\text{m}^3$ . På Vasser var prosenten 5.5. Både på Birkenes og Vasser hadde en altså en overskridelse av de ovennevnte normene for sulfat.

## 6 SAMMENLIKNING MED ANDRE MÅLINGER

International Meteorological Institute (IMI) i Stockholm har siden 1950-årene organisert et stasjonsnett for månedlig innsamling av nedbør. Nettet omfatter målestasjoner i både Skandinavia og på Kontinentet. Norske stasjoner i drift er for tiden Lista, Ås, Romerike, Kise, Trysil, Fillefjell og Tana. Nedbøren analyseres på en rekke komponenter, blant annet sulfat og syre.

Det er to stasjoner der både IMI og NILU har målinger, nemlig Lista og Fillefjell. En har foretatt en sammenlikning mellom resultatene for disse to stasjonene. Tabell 6 og 7 viser månedlig nedfall av sulfat og sterk syre, samt pH i nedbør. En skal være oppmerksom på at IMI's målinger er månedsmålinger, mens NILU's målinger er døgnmålinger som er summert opp for hver måned. Dessuten bruker IMI og NILU forskjellige analysemetoder for sterk syre, men forskjellen antas ikke å gi vesentlige utslag.

Av tabell 6 som viser måleresultater for Lista, ser en at sulfatverdiene stemmer brukbart overens, mens verdiene for sterk syre og pH til dels viser store avvik. Særlig gjelder dette månedene april, mai, juni, september og november.

Av tabell 7 som viser måleresultater for Fillefjell, har en også til dels betydelige avvik når det gjelder pH og sterk syre. Sulfatverdiene stemmer langt bedre overens.

MÅNED	SULFAT (mg/m <sup>2</sup> )		STERK SYRE (mekv/m <sup>2</sup> )		pH	
	NILU	IMI	NILU	IMI	NILU	IMI
JANUAR	366	431	7.4	6.0	4.1	4.0
FEBRUAR	95	102	1.3	1.0	4.8	4.7
MARS	164	153	2.9	2.4	4.2	4.2
APRIL	162	-	2.5	0.7	4.5	4.8
MAI	337	393	5.4	-0.1	4.2	5.2
JUNI	143	127	2.0	0.6	4.2	4.8
JULI	262	260	2.7	2.3	4.1	4.2
AUGUST	231	207	3.4	1.9	4.4	4.5
SEPTEMBER	217	198	3.5	-1.7	4.4	6.0
OKTOBER	139	72	1.3	0.6	4.6	4.7
NOVEMBER	362	378	5.0	0.4	4.4	5.5
DESEMBER	101	300	2.3	1.8	4.5	4.9
SUM 1973	2559	2621 <sup>1)</sup>	39.7	15.9		

<sup>1)</sup> uten april

Tabell 6: Sammenlikning mellom NILU's og IMI's målinger, LISTA 1973.

Comparison of NILU's and IMI's precipitation data, LISTA 1973.

MÅNED	SULFAT (mg/m <sup>2</sup> )		STERK SYRE (mekv/m <sup>2</sup> )		pH	
	NILU	IMI	NILU	IMI	NILU	IMI
JUNI	17	321	0.1	4.0	4.8	4.4
JULI	201	-	5.4	-	4.3	-
AUGUST	123	114	3.3	-0.5	4.3	6.0
SEPTEMBER	51	55	1.5	-0.3	4.8	5.6
OKTOBER	23	24	0.7	-0.6	4.7	6.1
NOVEMBER	29	18	0.6	-0.2	5.1	5.7
DESEMBER	34	-	0.9	-	4.7	-

Tabell 7: Sammenlikning mellom NILU's og IMI's målinger, FILLEFJELL 1973.

Comparison of NILU's and IMI's precipitation data, FILLEFJELL 1973.

NILU's målinger er antakelig de sikreste fordi nedbørsamleren rengjøres hver dag. Dessuten er tiden mellom eksponering og analyse langt kortere for NILU's prøver enn for IMI's. Videre må nevnes at IMI's månedsverdi består av én prøve, mens NILU's er en sum av flere prøver. En feil ved en enkeltprøve gir langt større utslag på IMI's resultat enn på NILU's. Imidlertid må en si at forskjellen var uventet stor. En hadde mindre forskjell i 1972.

I tabell 8 har en gjengitt nedfallet målt av IMI på Lista for årene 1967 - 1973. En har også tatt med NILU's verdier for 1972 og 1973. Som en ser varierer nedfallet til dels betydelig for de forskjellige år. På bakgrunn av tabell 8 kan en ikke si om nedfallet har vist økende tendens i perioden. Til det er den gjengitte måleserien for kort. Variasjonen i nedfallet skyldes de meteorologiske forholdene som kan variere betydelig fra et år til et annet.

År	Sulfat (mg/m <sup>2</sup> )	Sterk syre (mekv/m <sup>2</sup> )	Prosent svovelsyre	Svovelsyre (tonn/km <sup>2</sup> )
1967	4700	33.0	34	1.6
1968	3240	44.3	66	2.8
1969	4470	31.4	34	1.5
1970	3730	26.3	34	1.3
1971	3290	22.7	33	1.1
1972 IMI	2951	43.1	70	2.1
1972 NILU	3291	48.9	71	2.4
1973 IMI	2621 <sup>1)</sup>	15.9	29	0.7
1973 NILU	2559	39.7	74	1.9

1) uten april.

Tabell 8: Nedfall av sulfat, sterk syre og svovelsyre, samt prosent svovelsyre for IMI-stasjon LISTA 1967-1973.

Precipitated sulphate, strong acid and sulphuric acid, and calculated percentage sulphuric acid for IMI-station LISTA 1967-1973.

I Sverige's "case study" til FN's miljøvernkonferanse i Stockholm 1972 (6) er det imidlertid påvist at nedfallet har økt betydelig. En har her brukt IMI-nettet for hele Europa i perioden 1955 - 1970. En kjenner også til at utslippet av svoveldioksyd i Europa har økt i perioden 1967 - 1973. Ifølge en OECD-prognose (7) antar en at utslippet av svoveldioksyd i Vest-Europa vil være ca 65% høyere i 1980 enn i 1968.

## 7 KONKLUSJON

En har lagt fram døgnmålinger av luft og nedbør fra 23 norske bakkestasjoner for 1973.

Den geografiske fordelingen av nedfall av sulfat og sterk syre er vist. Det meste nedfall kom i Agder-fylkene og de sørlige strøkene av Østlandet og Vestlandet.

Nedfallet i 1973 har vært mindre enn i 1972 og relativt jevnt fordelt over Agder-fylkene og Rogaland. Forskjellen fra et år til et annet skyldes vesentlig de meteorologiske forholdene.

Belastningen i form av forurenset nedbør og høye luftkonsentrasjoner skjer ikke jevnt, men i form av episoder. Disse har hatt varighet fra ett til 3-4 døgn. Disse episodene har nær sammenheng med de meteorologiske forholdene. Det er vist eksempler på tilfeller med mye nedfall og tilfeller med høye luftkonsentrasjoner.

8 LITTERATURLISTE

- (1) Schjoldager, J. Svovelforurensninger i luft og nedbør ved norske bakgrunnstasjoner. Døgnmålinger november 1971 - juni 1972. NILU Teknisk notat nr 52/73, april 1973.
- (2) Schjoldager, J. Svovelforurensninger i luft og nedbør ved norske bakgrunnstasjoner. Døgnmålinger 2. halvår 1972. NILU Teknisk notat nr 65/73, november 1973.
- (3) Tollan, A. Snøputen, en vinters erfaringer. Vannet i Norden, nr 2 (1968), s. 15-20.
- (4) Stern, A.C. Air Pollution. Academic Press, New York 1968. Vol. III, s. 672-673.
- (5) Shy, C.M.,  
Finklea, J.F. Air Pollution Affects Community Health. Env. Sci. & Technol., vol. 7 (1973) no. 3, s. 204-208.
- (6) Air pollution across national boundaries. The impact on the environment of sulfur in air and precipitation. Swedens case study for the UN conference on the human environment. Stockholm 1971.
- (7) OECD-rapport PAC/70.7. Report of joint ad hoc group on air pollution from fuel combustion in stationary sources, s. 15, Paris 18.5.1972.

9 BILAG

Innholdsfortegnelse

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Bilag 1	Døgnverdier		31
	Januar	1973	31
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	Mars	1973	43
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NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

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MONTHLY SUMMARY OF RESULTS - JANUARY 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	56 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREADALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 17	KJELLER	P	59 59 N	11 03 E	120
13	N 18	LØKEN	P	59 48 N	11 27 E	150
14	N 19	BISLINGEN	P	60 14 N	10 37 E	680
15	N 20	GRIMELID	P	60 08 N	9 36 E	367
16	N 21	NOREFJELL	PA	60 13 N	9 31 E	810
17	N 22	VASSER	PA	59 04 N	10 26 E	35
18	N 23	LYNGØR	PA	58 38 N	9 08 E	23
19	N 24	FITJAR	P	59 55 N	5 19 E	20

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	1.1	1.4	0.0	4.1	3.9	3.4	0.4	0.0	17.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3
2	0.3	2.5	0.0	5.4	2.5	21.5	21.1	0.0	31.1	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7
3	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	0.0	9.8	1.3	2.2	0.0	3.0	0.0	0.0	0.0	0.0	2.5
4	0.0	0.0	0.0	0.0	0.0	1.8	10.9	0.0	28.3	17.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	7.3	22.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	-	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
10	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.2	0.0	0.8	0.0	0.9	0.7	0.4	1.2	0.0	1.3	0.0	1.1	1.8	0.0	0.0	0.0	1.3	0.0	0.0
13	1.7	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	8.3	4.5	5.3	2.4	8.6	2.1	0.0	6.2	0.0	0.0	0.9	0.0	0.0	0.0	1.9	4.8	0.0	11.1	0.0
15	26.1	15.7	26.3	9.9	23.0	4.5	11.0	13.7	0.0	0.0	2.1	7.3	11.8	2.9	6.7	7.6	13.7	37.2	0.1
16	4.1	7.2	6.4	3.8	2.3	0.7	0.9	1.7	0.0	0.0	1.2	5.9	0.0	0.0	4.2	0.0	0.8	0.9	0.2
17	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.6	0.3	0.1	0.0	0.0	0.0	2.5	0.0	5.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.7	1.3	1.6	3.1	0.2	0.0	0.0
20	17.2	11.1	10.2	0.4	10.0	0.1	0.0	8.3	0.0	0.0	-	9.9	4.1	2.3	9.6	11.1	0.2	4.6	0.0
21	54.1	35.3	32.8	20.1	37.2	5.8	0.4	31.4	0.0	0.0	-	0.0	1.2	1.8	3.8	5.6	0.4	13.3	0.0
22	19.7	9.5	1.8	0.8	7.3	1.4	0.0	2.6	0.0	0.0	-	2.9	3.9	2.2	5.0	5.3	2.1	0.5	0.0
23	0.3	0.0	0.0	0.4	0.0	6.0	0.8	2.4	1.7	2.9	-	0.0	0.0	3.6	1.8	1.7	0.0	0.0	6.0
24	2.7	3.5	3.1	8.3	13.7	6.1	0.8	2.3	13.8	25.5	-	1.7	2.2	0.6	2.1	0.9	0.6	1.3	11.1
25	4.1	6.3	1.0	5.0	8.0	24.6	18.6	1.7	16.0	18.3	-	0.0	2.4	0.0	0.0	0.0	1.6	1.5	12.7
26	-	9.2	2.9	8.5	8.6	7.0	7.4	4.5	16.0	3.1	-	0.0	2.5	0.0	1.8	2.2	3.5	2.0	4.1
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
28	2.0	2.9	1.1	3.2	7.8	22.3	12.4	1.4	9.9	0.2	1.2	4.8	4.8	0.0	1.2	0.0	1.9	0.9	7.2
29	0.0	0.3	0.0	0.0	0.0	8.5	3.9	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
30	5.7	5.5	4.3	7.2	10.3	6.4	2.1	4.6	0.0	0.0	0.0	0.5	5.2	7.2	1.5	4.1	2.9	4.1	4.3
31	1.0	2.2	1.7	4.3	3.1	4.6	7.4	1.4	2.0	0.0	1.4	4.8	0.0	0.0	1.1	0.0	0.0	0.0	11.5

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 24
1	1.5	0.0	3.0	4.6	3.5	1.9	0.0	16.8	1.3	0.0	0.0	16.5
2	2.5	0.0	6.8	3.4	19.9	24.5	0.0	30.2	10.0	0.0	0.0	18.6
3	0.0	0.0	0.0	0.0	1.3	0.5	0.0	9.6	2.1	2.2	0.0	3.5
4	0.0	0.0	0.0	0.0	1.7	10.1	0.0	28.8	25.5	0.0	0.0	7.1
5	0.0	0.0	0.0	0.0	0.0	1.3	0.0	7.4	30.0	0.0	0.0	2.0
6	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.2	10.0	0.0	0.0	1.3
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	27.9	0.0	0.0	1.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.6	0.0	0.0	1.5
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	19.0	0.0	0.0	1.6
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.4	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0
12	0.0	0.4	0.0	1.2	0.8	0.8	0.6	0.0	1.7	0.0	0.0	0.0
13	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	5.5	5.6	2.3	5.0	2.0	0.0	5.5	0.0	0.0	0.8	1.7	0.0
15	16.5	29.8	10.1	20.0	4.1	11.0	1.3	0.0	0.0	2.6	5.3	0.3
16	8.0	7.0	3.8	1.9	0.6	1.0	1.4	0.0	0.0	1.4	4.0	0.4
17	0.0	1.2	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.7	0.0
20	13.6	10.7	0.2	9.0	1.1	0.0	7.5	0.0	0.0	1.6	9.5	0.0
21	45.0	33.0	17.8	34.5	5.5	0.1	30.2	0.0	0.0	4.3	3.6	0.0
22	12.0	4.1	0.9	6.0	1.6	0.0	2.2	0.0	0.0	0.0	4.5	0.0
23	0.0	0.0	0.2	0.0	5.5	4.1	1.9	1.6	3.4	0.0	1.7	6.9
24	4.5	3.8	10.0	13.7	5.8	7.6	1.9	13.2	34.0	5.2	2.0	10.8
25	6.0	0.8	5.0	9.0	22.3	18.6	1.4	16.0	25.4	0.0	0.0	13.8
26	8.5	2.6	7.7	8.6	7.1	8.4	4.1	16.7	5.2	0.0	1.6	5.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
28	3.0	1.2	4.6	8.4	22.2	13.1	1.3	10.9	0.4	1.2	1.2	7.6
29	0.5	0.0	0.2	0.2	8.0	3.9	0.0	2.7	0.1	0.0	0.0	3.1
30	5.6	4.1	7.1	9.3	6.0	3.9	4.3	0.0	0.1	0.0	1.5	5.8
31	2.0	1.3	5.2	3.2	4.9	9.0	0.5	2.0	0.1	1.5	1.2	15.7

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	0.96	0.62	-	2.08	0.68	0.04	0.60	-	0.04	3.28	-	-	-	-	-	-	-	-	0.02
2	-	0.11	-	0.83	0.38	0.02	0.10	-	0.06	0.55	-	-	-	-	-	-	-	-	0.26
3	-	-	-	-	-	0.37	1.00	-	0.22	0.36	0.04	-	-	-	-	-	-	-	0.92
4	-	-	-	-	-	0.12	0.08	-	0.02	1.00	-	-	-	-	-	-	-	-	0.53
5	-	-	-	-	-	-	0.15	-	0.03	0.15	-	-	-	-	-	-	-	-	0.12
6	-	-	-	-	-	-	0.08	-	-	0.09	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	0.06	0.42	-	-	-	-	-	-	-	-	0.38
8	-	-	-	-	-	-	-	-	0.09	0.60	-	-	-	-	-	-	-	-	0.16
9	-	-	-	-	-	-	-	-	0.02	0.05	-	-	-	-	-	-	-	-	0.24
10	-	-	-	-	-	-	-	-	0.21	0.10	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	-	-	-	-
12	-	-	0.93	-	0.12	0.09	0.11	0.28	-	-	-	0.07	0.14	-	-	-	3.12	-	-
13	0.12	-	-	-	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	0.29	0.27	0.30	0.46	0.00	0.04	-	0.10	-	-	0.18	-	-	-	0.07	0.06	-	0.47	-
15	0.10	0.08	0.06	0.17	0.21	0.20	0.49	0.06	-	-	0.03	0.01	0.01	0.36	0.03	0.03	0.27	0.34	-
16	0.14	0.06	0.14	0.29	0.31	0.17	0.36	0.12	-	-	0.04	0.01	-	-	0.01	-	0.33	0.48	-
17	-	-	0.12	-	-	-	-	0.08	0.40	-	-	-	-	0.04	-	0.02	-	-	-
18	-	-	-	-	-	-	-	-	-	0.27	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	0.03	-	0.05	0.04	0.02	0.05	-	-	-
20	0.17	0.08	0.08	1.23	0.48	-	-	0.06	-	-	-	0.01	0.01	0.02	0.01	0.01	0.72	1.02	-
21	0.05	0.02	0.14	0.23	0.18	0.02	0.25	0.03	-	-	-	-	0.02	0.04	0.04	0.04	0.36	0.80	-
22	0.10	0.01	0.22	3.00	0.51	0.04	-	0.14	-	-	-	0.02	0.01	0.07	0.02	0.04	0.30	0.74	-
23	-	-	-	0.66	-	0.01	0.09	0.14	0.08	0.03	-	-	-	0.07	0.02	0.06	-	-	0.06
24	0.24	0.15	0.08	0.61	0.30	0.11	0.42	0.09	0.03	0.08	-	0.02	0.12	0.17	0.00	0.07	2.79	0.60	0.34
25	0.18	0.13	0.52	0.91	0.00	0.08	0.13	0.11	0.21	0.08	-	-	0.18	-	-	-	0.00	1.02	0.26
26	0.08	0.03	0.08	0.34	0.15	0.02	0.13	0.02	0.01	0.20	-	-	0.06	-	0.07	0.02	0.50	0.29	0.39
27	-	-	-	-	-	-	-	-	-	0.17	-	-	0.08	-	-	-	-	-	-
28	0.12	0.08	0.22	0.74	0.16	0.28	0.49	0.04	0.03	-	-	0.04	0.01	-	0.02	-	0.45	0.48	0.47
29	-	0.26	-	-	-	0.28	1.69	-	0.06	-	-	-	-	-	-	-	-	-	1.53
30	0.08	0.04	0.11	0.15	0.17	0.02	0.14	0.02	-	-	-	0.05	0.04	0.04	0.02	0.03	0.46	0.28	0.14
31	0.60	0.41	0.13	0.78	0.48	0.16	0.47	0.36	0.03	-	0.02	0.03	-	-	0.01	-	-	-	0.17

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	12.2	8.7	-	0.0	14.7	5.0	6.0	-	0.4	1.9	-	-	-	-	-	-	-	-	2.2
2	-	4.0	-	2.0	5.8	1.5	1.6	-	0.1	0.0	-	-	-	-	-	-	-	-	2.7
3	-	-	-	-	-	0.1	1.9	-	0.2	0.0	0.6	-	-	-	-	-	-	-	0.9
4	-	-	-	-	-	1.1	0.8	-	0.1	0.7	-	-	-	-	-	-	-	-	0.9
5	-	-	-	-	-	-	4.7	-	0.1	0.0	-	-	-	-	-	-	-	-	0.8
6	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	2.2	0.1	-	-	-	-	-	-	-	-	4.3
8	-	-	-	-	-	-	-	-	2.0	0.6	-	-	-	-	-	-	-	-	5.5
9	-	-	-	-	-	-	-	-	1.6	0.1	-	-	-	-	-	-	-	-	5.5
10	-	-	-	-	-	-	-	-	4.9	0.8	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-	-	-	-
12	-	-	1.9	-	5.1	1.9	4.1	1.9	-	-	-	6.8	3.9	-	-	-	1.0	-	-
13	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	4.4	4.0	9.5	5.7	5.0	2.4	-	5.7	-	-	6.8	-	-	-	9.0	5.8	-	4.8	-
15	3.2	2.9	1.8	6.3	8.8	5.8	5.1	3.4	-	-	2.6	0.8	1.6	3.5	4.0	5.7	5.5	4.9	-
16	0.7	4.6	0.3	6.7	14.3	5.5	9.1	8.7	-	-	0.7	0.8	-	-	2.3	-	4.9	5.7	-
17	-	-	3.9	-	-	-	-	2.0	4.5	-	-	-	-	4.7	-	2.5	-	-	-
18	-	-	-	-	-	-	-	-	-	1.9	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	1.7	-	3.3	3.5	2.0	4.9	-	-	-
20	5.5	4.2	3.5	14.7	8.5	-	-	5.6	-	-	-	1.7	1.5	2.5	2.5	2.2	23.7	11.0	-
21	3.7	1.5	6.7	5.9	6.3	0.9	8.7	2.9	-	-	-	-	3.2	4.8	7.5	8.0	25.7	12.4	-
22	6.9	1.5	14.5	9.0	4.3	0.0	-	9.3	-	-	-	2.8	2.9	11.2	6.2	5.0	4.6	17.2	-
23	-	-	-	5.6	-	2.6	2.0	3.1	1.6	1.3	-	-	-	2.4	0.8	0.3	-	-	2.1
24	8.8	6.6	8.6	5.0	6.5	4.5	7.4	6.6	0.8	0.9	-	2.4	8.1	5.5	0.0	0.8	10.7	9.4	5.2
25	6.5	4.0	13.6	1.9	3.4	2.0	2.2	5.4	0.4	0.2	-	-	8.4	-	-	-	0.0	13.3	4.1
26	1.3	0.8	1.5	1.0	1.4	0.4	0.6	0.9	0.2	1.2	-	-	2.5	-	0.3	0.1	12.7	1.7	1.1
27	-	-	-	-	-	-	-	-	-	1.5	-	-	2.4	-	-	-	-	-	-
28	1.1	1.3	2.8	1.9	2.2	0.5	0.7	0.8	0.2	-	-	2.0	1.6	-	0.7	-	0.4	4.3	1.2
29	-	7.8	-	-	-	1.7	2.9	-	1.2	-	-	-	-	-	-	-	-	-	3.3
30	6.8	5.7	7.0	6.2	9.6	3.1	3.8	5.5	-	-	-	4.9	4.3	4.3	4.5	3.3	7.1	9.3	5.4
31	0.0	2.7	6.6	2.4	2.5	1.3	1.8	4.8	0.7	-	6.2	5.2	-	-	2.3	-	-	-	0.6

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LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

PH IN PRECIPITATION

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	3.85	3.70	-	3.60	3.50	4.10	3.65	-	5.10	5.10	-	-	-	-	-	-	-	-	4.35
2	-	4.05	-	4.40	3.90	4.55	4.50	-	5.75	5.40	-	-	-	-	-	-	-	-	4.35
3	-	-	-	-	-	6.05	5.05	-	6.80	5.20	5.70	-	-	-	-	-	-	-	5.60
4	-	-	-	-	-	5.25	4.85	-	5.60	4.90	-	-	-	-	-	-	-	-	5.25
5	-	-	-	-	-	-	5.70	-	5.75	5.35	-	-	-	-	-	-	-	-	5.08
6	-	-	-	-	-	-	-	-	5.25	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	4.65	4.65	-	-	-	-	-	-	-	-	4.60
8	-	-	-	-	-	-	-	-	4.75	4.80	-	-	-	-	-	-	-	-	4.00
9	-	-	-	-	-	-	-	-	6.50	5.35	-	-	-	-	-	-	-	-	4.10
10	-	-	-	-	-	-	-	-	6.65	5.65	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	4.85	-	-	-	-	-	-	-	-	-	-
12	-	-	6.50	-	5.95	6.10	6.70	6.00	-	-	-	4.40	5.55	-	-	-	3.85	-	-
13	4.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	4.15	4.20	3.85	3.95	4.15	4.25	-	3.95	-	-	6.30	-	-	-	3.80	4.00	-	4.20	-
15	4.40	4.45	4.70	4.15	4.05	4.05	4.10	4.30	-	-	4.91	5.35	4.55	5.20	4.20	4.30	4.15	4.20	-
16	3.85	4.10	4.25	3.95	3.85	3.95	3.90	3.85	-	-	4.81	4.75	-	-	4.35	-	4.30	4.35	-
17	-	-	4.40	-	-	-	-	5.35	7.10	-	-	-	-	5.70	-	4.30	-	-	-
18	-	-	-	-	-	-	-	-	-	5.90	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	4.65	-	5.40	4.45	4.25	4.35	-	-	-
20	4.00	4.15	4.30	3.60	3.90	-	-	4.00	-	-	-	4.35	4.30	4.25	4.30	4.40	4.70	3.80	-
21	4.25	4.60	4.00	4.00	4.05	4.40	4.20	4.15	-	-	-	-	4.25	4.30	3.80	4.10	3.60	3.80	-
22	3.90	4.70	3.75	3.65	4.10	4.65	-	3.75	-	-	-	4.15	4.25	4.00	3.90	4.20	4.15	3.85	-
23	-	-	-	4.00	-	4.20	4.45	4.05	6.30	4.45	-	-	-	4.30	4.60	4.60	-	-	4.30
24	3.95	3.95	3.95	4.05	4.00	4.10	4.05	3.85	4.75	4.60	-	4.20	4.15	4.20	4.80	4.75	3.70	4.00	5.65
25	3.85	4.00	4.05	4.25	4.20	4.30	4.40	3.80	5.25	5.50	-	-	4.05	-	-	-	3.80	3.85	6.40
26	4.50	5.30	5.15	4.55	4.80	5.45	5.15	4.85	5.75	4.75	-	-	4.45	-	5.70	5.60	4.30	5.50	7.05
27	-	-	-	-	-	-	-	-	-	6.20	-	-	5.95	-	-	-	-	-	-
28	5.20	5.65	4.70	4.60	4.40	5.05	5.15	4.80	5.36	-	-	5.60	4.70	-	4.40	-	4.20	4.85	4.85
29	-	6.35	-	-	-	4.65	4.75	-	4.80	-	-	-	-	-	-	-	-	-	4.60
30	4.00	4.15	3.85	3.90	3.75	4.20	4.10	3.90	-	-	-	3.95	4.10	4.35	4.00	4.35	3.85	3.80	6.05
31	4.60	4.60	4.25	4.35	4.25	4.65	4.85	4.20	4.80	-	7.15	3.90	-	-	4.35	-	-	-	4.75

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	176	212	-	250	315	80	0	-	18	8	-	-	-	-	-	-	-	-	48
2	-	91	-	40	125	40	35	-	-4	4	-	-	-	-	-	-	-	-	48
3	-	-	-	-	-	0	14	-	-181	2	-13	-	-	-	-	-	-	-	-4
4	-	-	-	-	-	6	11	-	-3	13	-	-	-	-	-	-	-	-	7
5	-	-	-	-	-	-	0	-	-4	3	-	-	-	-	-	-	-	-	8
6	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	22	9	-	-	-	-	-	-	-	-	25
8	-	-	-	-	-	-	-	-	18	26	-	-	-	-	-	-	-	-	96
9	-	-	-	-	-	-	-	-	-69	4	-	-	-	-	-	-	-	-	80
10	-	-	-	-	-	-	-	-	-	-5	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-
12	-	-	-462	-	-12	0	0	-74	-	-	-	40	-10	-	-	-	168	-	-
13	106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	76	61	140	112	71	56	-	112	-	-	-15	-	-	-	160	96	-	65	-
15	44	33	20	71	89	89	83	50	-	-	17	-29	22	-61	63	47	76	70	-
16	146	77	56	112	140	112	144	140	-	-	16	21	-	-	45	-	60	63	-
17	-	-	40	-	-	-	-	3	-	-	-	-	-	-	-	47	-	-	-
18	-	-	-	-	-	-	-	-	-	-4	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	17	-	2	35	56	45	-	-	-
20	105	79	50	250	125	-	-	100	-	-	-	45	50	56	50	42	20	158	-
21	65	24	100	100	89	40	63	71	-	-	-	-	56	50	160	75	250	181	-
22	141	24	180	225	80	18	-	180	-	-	-	71	56	100	125	91	84	140	-
23	-	-	-	100	-	63	39	89	-166	35	-	-	-	50	34	36	-	-	58
24	125	122	112	89	100	80	117	140	-12	27	-	63	71	63	15	21	222	102	-18
25	157	105	89	56	63	50	42	160	-4	-14	-	-	99	-	-	-	182	166	-112
26	28	0	0	30	21	-7	8	10	-18	16	-	-	35	-	-2	-1	56	-9	-456
27	-	-	-	-	-	-	-	-	-	-10	-	-	-5	-	-	-	-	-	-
28	3	-9	12	24	40	-9	2	30	-9	-	-	-3	17	-	40	-	84	15	14
29	-	0	-	-	-	25	18	-	6	-	-	-	-	-	-	-	-	-	24
30	139	87	140	125	180	63	79	125	-	-	-	112	80	45	100	65	136	188	-65
31	39	17	50	45	56	27	17	63	18	-	-	125	-	-	45	-	-	-	19

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LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 21	N 22	N 23
1	6	13	19	5	17	14
2	0	11	6	1	32	8
3	0	10	3	2	6	0
4	0	5	0	19	16	2
5	0	3	0	7	8	2
6	4	0	3	4	13	0
7	4	0	2	2	11	0
8	4	0	5	3	0	0
9	3	0	5	7	5	0
10	3	0	2	4	19	0
11	1	0	5	-	17	5
12	3	0	3	16	21	4
13	3	0	0	13	18	3
14	10	5	20	11	7	7
15	25	10	6	28	16	0
16	24	5	8	9	20	11
17	15	0	33	3	21	0
18	2	0	4	4	29	0
19	9	0	0	4	13	7
20	13	5	37	13	12	18
21	28	33	22	23	22	16
22	11	7	52	77	20	9
23	11	6	2	36	20	9
24	5	6	5	30	19	8
25	0	6	2	13	3	7
26	0	0	0	5	5	1
27	4	7	13	20	6	4
28	4	6	12	8	3	2
29	7	8	13	11	12	1
30	6	9	19	2	11	5
31	3	9	7	3	4	4

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

SULPHAT. COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 21	N 22	N 23
1	5.9	3.4	1.1	1.7	12.4	2.5
2	3.2	1.4	0.8	0.5	12.1	0.2
3	0.1	0.2	0.3	0.1	1.1	0.0
4	0.3	0.1	0.3	0.1	1.1	0.1
5	0.1	0.1	0.6	0.0	0.7	0.0
6	0.1	0.3	0.4	0.1	1.1	0.1
7	0.3	0.1	1.6	0.4	2.2	0.1
8	0.3	0.2	2.2	0.5	1.8	1.2
9	0.5	0.9	1.8	0.3	7.4	1.6
10	0.3	0.4	0.4	0.3	5.3	4.4
11	0.6	0.1	0.5	0.5	2.6	5.9
12	1.3	0.4	0.2	0.9	6.2	5.3
13	1.4	2.5	4.0	0.9	2.4	4.2
14	0.7	4.9	2.8	0.2	3.5	3.8
15	8.0	6.9	4.7	2.4	5.0	4.3
16	6.8	6.7	1.2	2.7	7.3	8.4
17	3.6	4.2	6.7	1.3	10.9	5.8
18	1.4	1.3	3.7	0.6	5.4	5.1
19	4.2	4.5	1.2	1.7	4.9	4.5
20	5.8	4.0	5.0	2.2	6.4	6.4
21	4.3	1.8	0.2	4.9	14.7	10.2
22	5.1	2.2	3.5	2.8	7.1	0.2
23	2.9	4.6	1.1	1.9	4.6	4.5
24	3.2	3.0	2.2	1.2	8.9	6.7
25	0.1	2.6	0.3	1.2	9.0	8.6
26	0.1	0.2	0.2	0.1	2.2	2.2
27	0.3	0.2	0.4	0.5	0.9	0.6
28	0.1	3.0	1.5	0.4	1.1	1.0
29	2.6	2.1	1.7	0.6	4.3	2.7
30	3.6	2.5	0.1	0.8	4.0	0.4
31	1.7	1.1	0.9	1.3	3.2	2.0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	14	12	0	0	58	17	3	0	7	2	0	0	0	0	0	0	0	0	34
2	0	10	0	11	15	32	34	0	3	0	0	0	0	0	0	0	0	0	45
3	0	0	0	0	0	0	2	0	2	0	1	0	0	0	0	0	0	0	2
4	0	0	0	0	0	2	9	0	3	12	0	0	0	0	0	0	0	0	5
5	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	0	0	-	1	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	5
9	0	0	0	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	6
10	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
12	0	0	1	0	5	1	2	2	0	0	0	8	13	0	0	0	1	0	0
13	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	36	18	51	13	43	5	0	35	0	0	6	0	0	0	17	28	0	53	0
15	84	45	47	62	202	26	56	47	0	0	5	6	7	10	27	44	75	182	0
16	36	33	34	26	33	4	8	15	0	0	1	5	0	0	10	0	4	5	0
17	0	0	5	0	0	0	0	1	1	0	0	0	0	12	0	13	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	5	0	2	4	3	15	0	0	0
20	95	47	36	6	85	0	0	46	0	0	-	17	7	6	24	25	4	50	0
21	200	53	220	118	235	5	3	91	0	0	-	0	4	9	29	45	10	165	0
22	136	14	26	7	31	0	0	24	0	0	-	8	11	24	31	26	10	9	0
23	0	0	0	2	0	16	2	7	3	4	-	0	0	9	1	0	0	0	13
24	24	23	26	41	89	28	6	15	11	23	-	4	18	4	0	1	7	12	58
25	27	25	14	10	27	49	41	9	6	4	-	0	20	0	0	0	0	20	52
26	-	7	4	8	12	3	4	4	3	4	-	0	7	0	1	0	44	3	4
27	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0
28	2	4	3	6	17	11	9	1	2	0	0	10	3	0	1	0	1	4	9
29	0	2	0	0	0	15	11	0	3	0	0	0	0	0	0	0	0	0	7
30	39	32	30	45	99	20	8	25	0	0	0	3	27	31	7	14	20	38	23
31	0	6	11	10	8	6	13	7	1	0	8	25	0	0	2	0	0	0	7

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JANUARY 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 17	N 18	N 19	N 20	N 21	N 22	N 23	N 24
1	202	297	0	1019	1243	275	0	0	312	7	0	0	0	0	0	0	0	0	733
2	0	232	0	216	318	861	740	0	-124	24	0	0	0	0	0	0	0	0	802
3	0	0	0	0	0	0	15	0	-1775	3	-28	0	0	0	0	0	0	0	-10
4	0	0	0	0	0	11	120	0	-85	225	0	0	0	0	0	0	0	0	42
5	0	0	0	0	0	0	0	0	-29	67	0	0	0	0	0	0	0	0	12
6	0	0	0	0	0	0	0	0	-	51	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	81	180	0	0	0	0	0	0	0	0	14
8	0	0	0	0	0	0	0	0	33	38	0	0	0	0	0	0	0	0	95
9	0	0	0	0	0	0	0	0	-198	68	0	0	0	0	0	0	0	0	81
10	0	0	0	0	0	0	0	0	0	-14	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0
12	0	0	-353	0	-11	0	0	-90	0	0	0	46	-18	0	0	0	225	0	0
13	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	629	272	749	264	610	118	0	692	0	0	-13	0	0	0	311	458	0	724	0
15	1148	517	526	701	2045	402	911	684	0	0	36	-212	259	-179	425	359	1040	2607	0
16	604	554	357	428	321	78	128	241	0	0	20	124	0	0	189	0	48	54	0
17	0	0	53	0	0	0	0	2	0	0	0	0	0	-103	0	236	0	0	0
18	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	48	0	1	45	87	140	0	0	0
20	1805	880	509	103	1249	0	0	826	0	0	-	444	204	128	481	468	3	724	0
21	3517	848	3279	2005	3315	230	24	2233	0	0	-	0	58	92	611	420	95	2408	0
22	2783	229	321	172	586	25	0	470	0	0	-	208	217	216	625	481	179	71	0
23	0	0	0	38	0	377	30	210	-285	100	-	0	0	178	63	60	0	0	351
24	338	427	342	737	1369	489	93	321	-165	689	-	104	154	40	32	19	141	130	-201
25	650	662	91	282	501	1232	781	275	-64	-256	-	0	215	0	0	0	295	254	-1426
26	-	0	0	255	180	-49	59	45	-288	50	-	0	31	0	-4	-2	196	-18	-1858
27	0	0	0	0	0	0	0	0	0	-6	0	0	0	-3	0	0	0	0	0
28	6	-26	14	77	313	-201	25	41	-89	0	0	-14	32	0	47	0	160	13	100
29	0	0	0	0	0	213	71	0	16	0	0	0	0	0	0	0	0	0	52
30	796	482	606	903	1856	401	166	573	0	0	0	61	434	324	146	269	390	778	-279
31	37	38	99	193	175	124	126	88	37	0	0	605	0	0	47	0	0	0	218

NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

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MONTHLY SUMMARY OF RESULTS - FEBRUARY 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS			LOCATIONS			
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TÅGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA FEBRUARY 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	0.0	0.0	0.0	0.3	0.0	0.1	1.4	0.0	5.7	1.2	0.5	0.0	3.0	0.0	0.0	0.0	3.8
2	0.0	0.0	0.0	0.0	0.0	0.1	2.2	0.2	8.5	23.4	0.0	0.0	3.0	3.0	0.0	0.0	0.9
3	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	18.3	7.5	0.0	0.0	0.0	3.0	0.0	0.4	4.4
4	0.3	2.4	0.0	0.0	1.5	14.8	7.7	0.0	41.8	23.2	0.0	0.0	0.0	0.0	0.0	0.0	22.3
5	0.3	2.2	0.0	3.0	5.9	20.2	16.6	0.0	19.5	9.0	0.0	0.0	3.0	0.0	0.0	0.0	11.6
6	8.0	14.6	5.9	7.3	10.9	47.1	31.0	8.1	23.3	0.6	3.8	0.0	0.0	0.3	0.0	0.9	8.0
7	1.2	2.9	0.0	0.4	1.7	19.0	3.0	0.5	7.5	1.3	0.0	1.1	0.0	0.0	0.0	0.0	5.0
8	1.1	1.9	0.0	7.3	6.0	3.2	4.4	0.8	0.3	8.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
9	1.7	2.2	0.0	3.0	3.1	3.6	2.6	2.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	8.0
10	1.0	4.8	3.4	0.0	0.0	6.5	3.1	1.5	7.8	0.0	1.2	11.8	8.8	3.6	6.0	1.3	6.4
11	10.8	17.1	3.4	12.0	23.2	26.4	31.4	5.7	8.6	9.0	4.5	12.9	5.0	0.8	4.8	6.0	29.4
12	15.3	17.8	6.8	12.9	11.1	5.7	6.7	6.1	4.1	1.0	4.0	21.1	13.9	1.8	8.0	5.1	3.3
13	3.4	3.8	0.0	2.3	3.1	4.5	5.5	0.7	0.0	2.9	4.9	4.8	11.3	2.2	0.0	0.0	10.8
14	1.8	6.4	6.1	1.9	2.5	3.7	3.0	4.1	0.0	8.2	0.0	4.8	0.0	0.0	2.4	1.9	0.0
15	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.6	0.0	0.0	0.9	0.0	0.0	0.0	0.8	0.0	0.0	0.4	1.0	0.0	3.0	0.0	0.0	0.0
17	0.4	0.0	0.0	0.1	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.9	0.0	0.4	0.0	0.0	0.0
18	0.2	0.0	0.0	0.3	0.0	2.4	2.4	0.0	10.1	3.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
19	0.0	0.0	0.0	4.2	0.6	2.5	13.4	0.0	38.3	2.8	0.0	0.0	0.0	3.0	0.0	0.0	29.9
20	0.0	0.6	3.0	3.5	0.4	22.3	26.7	0.0	50.2	7.3	2.9	0.0	0.0	3.0	0.0	0.0	44.6
21	0.0	0.4	0.0	0.9	0.0	17.0	7.1	0.2	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
22	5.7	12.9	7.6	2.7	3.7	4.3	12.0	6.4	0.0	0.0	0.0	0.0	0.0	1.7	0.0	10.2	12.4
23	0.2	0.0	5.3	12.5	0.0	0.0	2.5	0.3	0.0	0.0	1.1	0.0	1.6	1.1	0.0	5.1	3.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	3.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.8	0.0	0.0	3.0	3.0	0.0	0.0	2.2
27	0.0	0.0	0.0	0.7	0.8	2.2	2.9	0.0	11.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.5
28	0.0	0.0	0.0	0.9	0.2	13.2	11.5	1.9	11.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA FEBRUARY 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 24
1	0.0	0.0	0.5	0.0	0.1	1.3	0.0	5.5	1.8	0.5	0.0	4.4
2	0.0	0.0	0.0	0.0	0.1	2.2	0.1	8.6	30.2	0.0	0.0	2.0
3	0.0	0.0	0.0	0.0	0.0	1.5	0.0	19.2	12.6	0.0	0.0	5.6
4	2.5	0.0	0.0	2.5	13.5	9.8	0.0	44.2	30.0	0.0	0.0	22.0
5	2.0	0.0	3.2	7.4	20.4	18.0	3.0	19.1	16.6	0.0	0.0	12.3
6	14.5	7.4	9.7	17.0	44.2	31.0	8.1	23.2	0.7	3.8	0.1	10.6
7	3.0	0.0	0.3	3.0	17.6	3.0	0.4	8.1	2.0	0.0	0.0	5.8
8	2.5	0.3	6.3	6.0	2.7	3.7	0.6	0.6	11.0	0.0	0.0	0.5
9	2.5	0.0	3.6	3.5	3.2	7.0	1.9	0.0	0.5	0.0	0.0	9.5
10	5.5	3.3	0.4	0.5	6.3	3.4	1.3	8.4	0.0	1.2	3.0	6.0
11	17.5	3.1	12.1	21.5	25.8	31.4	5.3	12.0	12.0	4.8	0.3	31.3
12	16.5	7.0	13.2	9.0	5.2	6.0	6.0	5.2	1.3	4.3	1.5	4.0
13	5.0	0.0	2.9	4.0	4.1	6.5	0.5	0.0	3.3	5.1	2.0	10.4
14	7.0	6.1	2.7	2.5	3.2	4.4	3.7	0.0	13.4	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0
16	0.0	0.4	0.7	0.1	0.0	0.0	0.5	0.0	0.0	0.6	0.0	0.0
17	0.0	0.0	0.3	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.4	0.0
18	0.0	0.0	0.0	0.0	2.4	3.0	0.0	9.7	4.0	0.0	0.0	7.3
19	0.0	0.0	3.6	1.5	2.5	14.6	0.0	37.8	9.6	0.0	0.0	30.0
20	0.3	0.0	4.3	0.7	22.2	29.6	0.0	49.0	16.4	3.5	0.0	46.0
21	0.3	0.0	0.7	0.2	15.1	7.6	0.2	3.2	0.0	0.0	0.0	7.3
22	12.0	7.7	2.0	4.0	4.2	12.0	6.2	0.3	0.0	0.0	1.4	13.3
23	0.0	5.6	11.8	1.0	0.0	2.6	0.2	0.0	0.0	1.5	0.6	3.5
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.7	0.0	0.0	2.4
27	0.0	0.0	0.6	1.3	2.0	4.5	0.0	13.9	0.2	0.0	0.0	5.0
28	0.0	0.0	1.3	0.4	12.5	11.5	2.0	10.6	1.8	0.0	0.0	1.0







LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA FEBRUARY 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	3	6	8	4	3	-
2	5	5	4	2	5	0
3	0	2	0	2	2	0
4	0	2	0	0	2	0
5	0	2	0	4	5	0
6	0	0	0	2	7	0
7	0	0	0	4	5	0
8	0	2	3	4	5	0
9	0	0	3	12	5	0
10	3	0	0	9	2	3
11	0	0	5	11	1	2
12	0	0	0	2	0	2
13	1	2	0	0	0	4
14	8	0	0	7	8	0
15	9	12	13	16	8	0
16	5	4	4	7	6	0
17	6	9	9	14	5	36
18	0	7	4	5	5	7
19	0	6	4	3	0	0
20	0	2	2	4	1	0
21	0	4	2	4	0	0
22	0	4	3	4	1	0
23	4	3	3	4	6	0
24	2	2	-	8	8	0
25	2	0	-	7	5	0
26	2	2	-	8	0	2
27	5	4	-	6	0	3
28	6	3	-	7	6	3

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA FEBRUARY 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	1.1	1.0	1.0	2.9	1.1	-
2	1.8	1.0	2.0	2.6	0.9	0.3
3	0.6	0.0	3.9	1.3	0.5	0.4
4	2.6	0.9	0.7	3.3	1.1	1.4
5	0.3	2.5	0.3	1.7	0.2	0.0
6	0.5	0.2	1.3	0.6	1.1	0.3
7	0.5	0.8	0.3	0.2	1.6	1.3
8	0.5	0.5	0.7	1.0	0.8	0.6
9	0.6	0.4	0.2	2.7	0.6	1.0
10	0.7	0.7	0.9	1.4	0.3	2.3
11	0.6	0.6	0.0	1.7	0.4	0.8
12	0.2	0.6	0.2	0.8	0.6	2.0
13	0.3	0.2	0.2	0.8	0.0	2.5
14	3.0	0.3	1.2	2.7	2.5	1.8
15	5.0	5.4	4.3	5.4	4.0	0.3
16	0.7	2.9	1.7	1.4	1.2	0.4
17	0.6	1.1	2.0	3.2	1.8	1.3
18	2.5	3.0	0.3	3.5	3.6	1.3
19	0.5	1.7	0.0	1.8	0.9	0.2
20	0.0	0.0	0.0	1.2	0.2	0.1
21	0.5	1.6	0.6	0.3	0.4	0.2
22	0.6	0.7	0.2	1.0	0.6	1.8
23	0.4	1.1	0.5	1.2	1.8	2.0
24	1.4	0.0	1.5	1.8	2.4	2.5
25	0.6	0.4	-	1.2	0.6	1.9
26	0.7	0.4	-	2.2	0.9	1.3
27	1.2	2.7	-	1.5	1.0	1.4
28	2.1	1.8	-	3.6	2.0	0.8

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA FEBRUARY 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	0	0	0	1	0	0	4	0	11	2	2	0	0	0	0	0	19
2	0	0	0	0	0	0	5	0	23	0	0	0	0	0	0	0	3
3	0	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	7
4	0	18	0	0	13	18	31	0	17	30	0	0	0	0	0	0	29
5	0	3	0	8	15	18	10	0	47	12	0	0	0	0	0	0	7
6	8	9	5	8	12	42	25	6	28	0	2	0	0	1	0	2	0
7	0	3	0	0	6	23	3	1	11	1	0	11	0	0	0	0	8
8	1	2	0	9	5	2	3	1	1	2	0	0	0	0	0	0	0
9	1	2	0	5	5	2	3	1	0	0	0	0	0	0	0	0	6
10	1	3	5	0	0	3	4	1	2	0	1	9	8	1	38	6	7
11	11	14	5	19	49	18	35	5	3	4	3	12	10	0	10	13	6
12	5	7	3	10	10	4	1	2	1	1	2	15	7	1	6	4	1
13	1	1	0	3	3	3	1	0	0	1	3	3	9	1	0	0	6
14	1	14	9	7	11	7	5	5	0	2	0	8	0	0	9	7	0
15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
16	0	0	0	2	0	0	0	1	0	0	1	1	0	0	0	0	0
17	0	0	0	0	0	2	0	0	0	0	0	3	0	0	0	0	0
18	0	0	0	1	0	1	5	0	3	2	0	0	0	0	0	0	7
19	0	0	0	7	2	1	7	0	8	3	0	0	0	0	0	0	6
20	0	1	0	2	1	11	11	0	15	2	2	0	0	0	0	0	9
21	0	1	0	0	0	14	14	0	3	0	0	0	0	0	0	0	6
22	8	9	3	2	2	3	11	8	0	0	0	0	0	3	0	13	9
23	0	0	7	0	0	0	2	0	0	0	2	0	10	1	0	9	2
24	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2
27	0	0	0	5	10	14	20	0	17	0	0	0	0	0	0	0	32
28	0	0	0	5	0	20	13	2	10	1	0	0	0	0	0	0	2

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA FEBRUARY 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	0	0	0	-1	0	0	56	0	201	16	0	0	0	0	0	0	-2857
2	0	0	0	0	0	0	25	3	381	47	0	0	0	0	0	0	4
3	0	0	0	0	0	0	51	0	-37	30	0	0	0	0	0	0	2-1915
4	0	348	0	0	214	-326	539	0	-125	-186	0	0	0	0	0	0	780
5	0	11	0	121	225	20	-17	0	195	0	0	0	0	0	0	0	93
6	95	146	41	174	109	47	248	65	303	-3	-23	0	0	5	0	-37	32
7	-15	32	0	0	34	228	-3	-4	-15	-31	0	-62	0	0	0	0	70
8	2	-15	0	139	60	23	25	7	0	8	0	0	0	0	0	0	0
9	24	0	0	30	79	36	-5	22	0	-4	0	0	0	0	0	0	111
10	20	-44	65	0	0	26	6	12	-63	0	15	283	-133	68	151	-48	121
11	216	360	10	263	857	-951	314	108	-95	27	27	194	5	3	181	42	206
12	-260	125	-61	129	111	-206	-106	-477	-244	20	8	232	-847	53	95	10	7
13	10	-11	0	32	25	-163	0	0	0	63	79	-72	-2359	-7	0	0	195
14	68	264	61	136	124	185	180	143	0	123	0	140	0	0	222	126	0
15	0	0	0	0	0	0	0	0	0	-2	0	0	0	0	0	0	0
16	0	0	0	16	0	0	0	21	0	0	12	24	0	0	0	0	0
17	0	0	0	0	0	51	0	0	0	0	0	45	0	0	0	0	0
18	0	0	0	0	0	-21	-22	0	-132	51	0	0	0	0	0	0	95
19	0	0	0	29	3	-23	-67	0	0	42	0	0	0	0	0	0	329
20	0	-3	0	46	-1	-201	-133	0	100	73	59	0	0	0	0	0	267
21	0	-1	0	53	0	136	184	0	-157	0	0	0	0	0	0	0	0-1439
22	206	219	69	-22	59	-239	-60	89	0	0	0	0	0	58	0	61	222
23	0	0	80	63	0	0	-12	0	0	0	7	0	-233	25	0	-56	18
24	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	-27	-16	0	0	0	0	0	0	36
27	0	0	0	134	207	433	390	0	521	0	0	0	0	0	0	0	-588
28	0	0	0	-1	0	-13	207	17	206	13	0	0	0	0	0	0	10

NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

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MONTHLY SUMMARY OF RESULTS - MARCH 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREADALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	ØISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	9.2	7.5	8.0	9.5	11.7	10.2	10.0	6.2	1.5	0.0	0.0	0.0	0.0	0.0	5.2	11.1	7.0
2	1.9	1.6	1.7	5.2	3.5	2.4	6.0	1.7	0.0	0.0	0.0	0.0	0.0	4.5	6.4	0.8	4.1
3	0.5	0.0	1.2	3.4	3.6	3.1	2.3	1.8	5.5	2.2	1.7	2.0	2.9	0.0	1.8	1.1	3.4
4	4.6	4.9	4.8	5.3	12.9	14.3	15.4	7.7	9.9	1.0	5.6	4.7	3.1	4.2	2.2	2.5	16.2
5	0.2	0.0	0.0	0.0	0.0	1.3	0.0	0.0	10.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	6.8
6	0.0	0.0	0.0	0.0	2.2	2.0	1.5	0.0	9.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	7.3
7	0.0	0.0	0.0	1.6	0.0	1.2	1.3	0.0	1.7	8.7	0.0	0.0	0.0	0.0	0.0	0.0	2.2
8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	4.4	6.2	0.0	0.0	0.0	0.0	0.0	0.0	2.4
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	27.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.6	4.2	0.0	0.0	0.0	0.0	0.0	0.0	2.9
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	2.1	7.0	0.0	9.1	19.1	0.0	0.0	0.0	0.0	0.0	0.0	17.2
16	0.2	0.0	0.0	2.1	0.0	9.0	60.0	0.0	25.0	1.2	0.0	0.0	0.0	0.0	0.6	0.0	34.2
17	0.0	0.0	0.0	0.2	0.0	1.1	9.9	0.0	4.8	0.4	0.3	0.0	0.0	0.0	0.0	0.0	2.9
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.6	0.0	0.1	1.1	0.0	16.2	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6
20	0.0	0.0	0.0	0.0	0.0	3.2	3.9	0.0	8.1	4.3	0.3	0.0	0.0	0.0	0.0	0.0	1.4
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.3	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8
22	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.0	46.2	31.2	0.0	0.0	0.0	0.0	0.0	0.0	8.9
23	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.0	6.2	8.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.6	2.6	0.0	3.2	2.9	12.0	15.0	0.6	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	6.0
25	0.3	0.5	0.0	0.0	0.0	5.3	2.3	0.3	9.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	4.1
26	0.0	0.0	0.0	0.5	0.0	2.2	0.0	1.3	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	2.2
27	0.0	0.4	0.5	0.0	0.8	0.3	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
28	1.3	2.2	0.5	5.4	4.5	4.8	1.9	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	8.9	1.9
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	1.0	2.5	0.0	4.4	6.0	10.1	18.0	0.4	10.2	6.4	0.3	3.2	0.0	0.0	0.0	0.3	27.1
31	9.5	18.7	3.1	3.1	7.8	26.4	21.5	6.9	18.1	0.0	0.0	0.0	0.0	0.0	1.1	4.8	12.2

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 24
1	7.4	8.1	9.0	11.5	9.5	10.6	5.1	1.5	0.0	0.0	0.0	7.5
2	1.5	1.4	4.8	3.5	2.4	6.0	2.0	0.1	0.0	0.0	3.7	5.0
3	0.0	0.8	4.0	4.3	2.9	3.1	1.3	5.4	2.9	2.0	0.0	4.7
4	5.0	4.8	5.9	11.9	13.4	15.4	6.4	10.5	1.3	4.8	5.3	15.0
5	0.0	0.0	0.0	0.0	1.5	0.0	0.0	13.0	2.1	0.0	0.0	7.5
6	0.0	0.0	0.0	2.4	2.1	1.6	0.0	10.5	0.5	0.0	0.0	7.6
7	0.0	0.0	2.0	0.3	0.9	1.5	0.0	1.7	16.5	0.0	0.0	2.3
8	0.0	0.0	0.0	0.0	0.0	0.2	0.0	4.4	7.2	0.0	0.0	3.1
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34.6	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.5	5.9	0.0	0.0	3.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.5	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.3	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	2.1	6.7	0.0	9.5	24.6	0.0	0.0	18.0
16	0.0	0.0	2.3	0.0	8.0	59.5	0.0	24.4	1.5	0.0	0.0	35.0
17	0.0	0.0	0.8	0.0	1.2	11.0	0.0	4.7	0.4	0.3	0.0	4.2
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	4.8	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.1	1.0	0.0	18.2	10.3	0.0	0.0	1.1
20	0.0	0.0	0.0	0.0	3.5	3.5	0.0	8.0	6.6	0.2	0.0	2.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	11.3	0.0	0.0	1.6
22	0.0	0.0	0.0	0.0	0.4	0.5	0.0	46.1	33.8	0.0	0.0	10.1
23	0.0	0.0	0.0	0.0	0.5	0.1	0.0	6.4	11.3	0.0	0.0	0.0
24	2.5	0.0	3.5	3.0	11.3	15.0	0.5	0.1	3.5	0.0	0.0	6.5
25	0.5	0.0	0.0	0.1	5.8	4.2	0.4	9.9	0.9	0.0	0.0	5.1
26	0.0	0.0	0.3	0.2	1.8	0.0	1.0	0.0	1.6	0.2	0.2	2.8
27	0.2	0.6	0.0	0.7	0.2	0.0	0.1	0.0	0.0	0.0	0.4	0.0
28	2.0	0.4	5.8	4.9	4.8	2.5	0.0	0.1	0.6	0.0	0.0	3.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.5	0.0	0.0	0.0
30	4.5	0.0	4.8	6.9	9.7	18.0	0.3	10.4	6.2	0.3	0.0	27.3
31	19.0	3.2	3.5	10.0	24.5	21.5	6.5	18.4	0.0	0.0	0.0	13.4

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	0.05	0.04	0.09	0.20	0.05	0.03	0.18	0.03	0.30	-	-	-	-	-	0.25	0.10	0.26	0.37
2	0.18	0.24	0.21	0.43	0.30	0.23	0.28	0.10	-	-	-	-	-	0.11	0.22	0.33	0.18	0.18
3	-	-	0.40	0.79	0.24	0.17	0.28	0.18	0.42	0.17	0.10	0.02	0.17	-	0.40	0.68	0.24	0.10
4	0.11	0.11	0.23	0.28	0.13	0.10	0.11	0.08	0.05	0.20	0.03	0.11	0.03	0.02	0.59	0.36	0.11	0.12
5	-	-	-	-	-	0.74	-	-	0.06	0.11	-	-	-	-	-	-	0.54	0.13
6	-	-	-	-	0.62	0.08	0.30	-	0.10	0.24	-	-	-	-	-	-	0.16	0.87
7	-	-	-	0.85	-	0.15	0.50	-	0.12	0.08	-	-	-	-	-	-	0.50	0.23
8	-	-	-	-	-	-	0.58	-	0.12	0.03	-	-	-	-	-	-	0.33	0.14
9	-	-	-	-	-	-	-	-	0.92	0.11	-	-	-	-	-	-	-	0.16
10	-	-	-	-	-	-	-	-	0.04	0.56	-	-	-	-	-	-	0.52	1.50
11	-	-	-	-	-	-	-	-	-	0.66	-	-	-	-	-	-	-	0.88
12	-	-	-	-	-	-	-	-	-	0.09	-	-	-	-	-	-	-	0.50
13	-	-	-	-	-	-	-	-	0.21	0.84	-	-	-	-	-	-	-	0.20
14	-	-	-	-	-	-	-	-	-	0.26	-	-	-	-	-	-	-	0.63
15	-	-	-	-	-	0.07	0.12	-	0.02	0.05	-	-	-	-	-	-	0.17	0.35
16	-	-	-	-	-	0.01	0.06	-	0.01	0.30	-	-	-	-	3.60	-	0.10	0.04
17	-	-	-	-	-	-	0.13	-	0.08	0.06	0.72	-	-	-	-	-	0.55	0.04
18	-	-	-	-	-	-	-	-	0.50	0.06	-	-	-	-	-	-	-	0.35
19	-	-	-	-	-	3.36	1.86	-	0.06	0.26	-	-	-	-	-	-	1.22	0.02
20	-	-	-	-	-	0.56	0.82	-	0.15	0.16	0.09	-	-	-	-	-	1.02	0.01
21	-	-	-	-	-	-	-	-	0.10	0.01	-	-	-	-	-	-	0.92	-
22	-	-	-	-	-	0.44	1.32	-	0.03	0.01	-	-	-	-	-	-	0.32	-
23	-	-	-	-	-	0.38	2.12	-	0.31	0.17	-	-	-	-	-	-	-	-
24	0.28	0.12	-	0.30	0.27	0.04	0.09	0.33	-	0.04	-	-	-	-	-	-	0.13	-
25	-	0.36	-	-	-	-	0.47	0.22	0.05	0.26	-	-	-	-	-	-	0.57	0.43
26	-	-	-	1.62	-	0.09	-	0.14	-	0.03	0.20	-	-	-	-	-	0.28	0.05
27	-	0.35	0.46	-	0.35	0.44	-	0.44	-	-	-	0.20	-	0.17	-	-	-	0.12
28	0.30	0.16	0.36	0.08	0.13	0.05	0.32	-	-	0.32	-	-	-	-	-	0.17	0.74	0.30
29	-	-	-	-	-	-	-	-	0.56	0.05	-	-	-	-	-	-	-	-
30	0.50	0.30	-	1.78	0.49	0.43	0.34	0.50	0.16	0.05	0.40	0.18	-	-	-	3.84	0.47	-
31	0.25	0.37	0.22	5.50	0.83	0.24	0.67	0.08	0.05	-	-	-	-	-	8.96	0.49	1.09	0.11

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	1.5	2.6	1.9	2.6	3.0	0.9	1.5	0.5	1.3	-	-	-	-	-	5.2	2.2	1.5	4.4
2	2.2	3.1	3.6	2.1	3.4	0.8	1.0	1.6	-	-	-	-	-	1.1	5.1	3.8	1.1	7.0
3	-	-	5.7	4.9	5.9	2.3	2.6	4.5	0.7	5.4	4.2	4.9	3.2	-	10.1	10.6	2.2	6.2
4	1.9	2.0	3.0	3.4	3.3	1.8	2.1	1.5	0.3	0.3	0.8	3.3	1.6	1.2	5.6	4.3	1.2	3.9
5	-	-	-	-	-	1.0	-	-	0.3	0.7	-	-	-	-	-	-	1.7	3.9
6	-	-	-	-	2.1	0.6	1.6	-	0.5	2.0	-	-	-	-	-	-	0.9	2.9
7	-	-	-	1.2	-	2.1	1.2	-	0.8	0.4	-	-	-	-	-	-	1.8	3.9
8	-	-	-	-	-	-	6.1	-	1.6	0.4	-	-	-	-	-	-	3.3	3.1
9	-	-	-	-	-	-	-	-	7.2	0.5	-	-	-	-	-	-	-	1.6
10	-	-	-	-	-	-	-	18.1	1.0	1.1	-	-	-	-	-	-	4.3	5.3
11	-	-	-	-	-	-	-	-	-	6.4	-	-	-	-	-	-	-	6.6
12	-	-	-	-	-	-	-	-	-	2.1	-	-	-	-	-	-	-	15.2
13	-	-	-	-	-	-	-	-	5.8	3.6	-	-	-	-	-	-	-	3.8
14	-	-	-	-	-	-	-	-	-	6.3	-	-	-	-	-	-	-	7.5
15	-	-	-	-	-	2.2	4.0	-	1.1	1.2	-	-	-	-	-	-	5.4	5.3
16	-	-	-	2.5	-	0.3	1.1	-	0.5	1.6	-	-	-	-	19.4	-	1.0	1.5
17	-	-	-	-	-	1.0	1.8	-	1.8	0.5	9.1	-	-	-	-	-	2.2	2.2
18	-	-	-	-	-	-	-	-	1.4	0.3	-	-	-	-	-	-	-	1.2
19	-	-	-	-	-	46.3	12.6	-	1.0	3.4	-	-	-	-	-	-	6.6	0.3
20	-	-	-	-	-	7.2	4.3	-	4.0	0.8	2.1	-	-	-	-	-	6.4	0.7
21	-	-	-	-	-	-	-	-	4.9	0.1	-	-	-	-	-	-	8.7	-
22	-	-	-	-	-	8.7	11.3	-	0.8	0.3	-	-	-	-	-	-	5.2	-
23	-	-	-	-	-	8.7	10.9	-	9.0	0.9	-	-	-	-	-	-	-	-
24	1.8	7.0	-	6.7	8.6	4.8	5.0	8.5	-	3.2	-	-	-	-	-	-	4.4	-
25	-	8.5	-	-	-	6.0	5.1	17.8	1.7	7.0	-	-	-	-	-	-	3.8	62.3
26	-	-	-	2.6	-	2.7	-	5.5	-	1.4	5.0	-	-	-	-	-	2.8	2.8
27	-	8.5	8.0	-	8.5	7.5	-	11.1	-	-	-	17.6	-	3.2	-	-	-	12.3
28	17.4	8.8	9.6	5.8	8.4	3.8	7.4	-	-	6.4	-	-	-	-	-	5.0	7.2	24.0
29	-	-	-	-	-	-	-	-	12.3	0.8	-	-	-	-	-	-	-	-
30	7.4	2.0	-	5.0	3.3	2.7	1.5	7.1	2.4	3.9	8.0	7.3	-	-	-	15.0	1.6	-
31	1.6	1.9	3.1	3.3	2.4	1.4	1.9	1.3	0.8	-	-	-	-	-	0.0	2.0	1.8	4.7

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LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

PH IN PRECIPITATION

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	4.30	4.10	4.60	4.15	4.25	4.60	4.60	4.10	4.65	-	-	-	-	-	3.80	4.15	3.90	4.35
2	4.20	4.20	4.50	4.45	4.10	4.90	4.60	4.25	-	-	-	-	-	4.20	3.80	4.35	4.30	5.80
3	-	-	5.55	4.10	4.00	4.50	4.60	4.25	5.75	4.70	4.45	4.00	4.30	-	3.95	4.20	4.10	4.00
4	4.20	4.50	5.20	4.30	4.20	4.45	4.45	4.55	5.20	5.55	5.00	4.30	4.85	4.80	4.00	4.45	4.60	4.40
5	-	-	-	-	-	5.45	-	-	5.40	5.00	-	-	-	-	-	-	4.50	4.50
6	-	-	-	-	4.35	5.40	5.30	-	6.10	4.75	-	-	-	-	-	-	4.65	6.05
7	-	-	-	5.40	-	4.80	5.10	-	5.65	5.00	-	-	-	-	-	-	4.45	4.30
8	-	-	-	-	-	-	5.00	-	5.00	5.55	-	-	-	-	-	-	4.45	4.90
9	-	-	-	-	-	-	-	-	4.00	5.25	-	-	-	-	-	-	-	6.50
10	-	-	-	-	-	-	-	-	5.30	4.90	-	-	-	-	-	-	4.50	4.00
11	-	-	-	-	-	-	-	-	-	4.60	-	-	-	-	-	-	-	4.50
12	-	-	-	-	-	-	-	-	-	4.55	-	-	-	-	-	-	-	3.80
13	-	-	-	-	-	-	-	-	4.80	4.55	-	-	-	-	-	-	-	4.20
14	-	-	-	-	-	-	-	-	-	4.05	-	-	-	-	-	-	-	4.30
15	-	-	-	-	-	5.40	4.65	-	4.95	4.70	-	-	-	-	-	-	4.20	4.10
16	-	-	-	4.70	-	5.20	5.20	-	5.20	5.50	-	-	-	-	6.20	-	5.15	4.75
17	-	-	-	-	-	6.30	4.80	-	6.10	5.00	4.50	-	-	-	-	-	5.00	5.00
18	-	-	-	-	-	-	-	-	6.00	5.30	-	-	-	-	-	-	-	4.65
19	-	-	-	-	-	-	3.90	-	4.80	5.40	-	-	-	-	-	-	3.95	5.20
20	-	-	-	-	-	4.25	4.25	-	4.35	5.00	4.70	-	-	-	-	-	4.20	4.75
21	-	-	-	-	-	-	-	-	4.10	5.10	-	-	-	-	-	-	4.20	-
22	-	-	-	-	-	3.95	4.20	-	5.15	5.60	-	-	-	-	-	-	4.10	-
23	-	-	-	-	-	4.45	4.20	-	4.70	4.70	-	-	-	-	-	-	-	-
24	4.45	4.05	-	3.90	3.95	4.15	4.10	4.45	-	4.15	-	-	-	-	-	-	3.95	-
25	-	3.80	-	-	-	4.05	4.20	4.00	4.60	3.95	-	-	-	-	-	-	4.05	3.30
26	-	-	-	4.50	-	4.60	-	4.20	-	4.00	4.15	-	-	-	-	-	4.35	4.30
27	-	3.80	4.50	-	3.75	4.50	-	4.20	-	-	-	3.80	-	4.20	-	-	-	3.75
28	3.65	5.10	4.30	3.90	3.95	4.20	4.00	-	-	4.20	-	-	-	-	-	4.30	3.85	3.60
29	-	-	-	-	-	-	-	-	3.90	5.10	-	-	-	-	-	-	-	-
30	4.30	4.70	-	4.20	4.20	4.40	4.60	4.15	4.40	4.10	4.50	4.70	-	-	-	4.00	4.50	-
31	4.60	4.55	4.60	4.40	4.45	4.65	4.80	4.80	5.40	-	-	-	-	-	3.50	4.50	4.50	4.20

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	62	35	21	71	56	18	40	80	30	-	-	-	-	-	103	61	52	80
2	78	52	32	35	80	15	21	56	-	-	-	-	-	63	88	75	18	-74
3	-	-	-2	80	100	13	25	56	-17	35	35	100	42	-	92	86	31	132
4	44	35	-23	50	63	35	41	30	5	0	8	50	14	10	78	33	29	58
5	-	-	-	-	-	-2	-	-	-2	4	-	-	-	-	-	-	34	38
6	-	-	-	-	45	6	2	-	-119	18	-	-	-	-	-	-	29	-106
7	-	-	-	-22	-	16	-16	-	2	10	-	-	-	-	-	-	57	62
8	-	-	-	-	-	-	10	-	9	-15	-	-	-	-	-	-	35	14
9	-	-	-	-	-	-	-	-	100	-12	-	-	-	-	-	-	-	NEG
10	-	-	-	-	-	-	-	-	-2	12	-	-	-	-	-	-	32	80
11	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	18
12	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	164
13	-	-	-	-	-	-	-	-	14	28	-	-	-	-	-	-	-	44
14	-	-	-	-	-	-	-	-	-	89	-	-	-	-	-	-	-	20
15	-	-	-	-	-	1	33	-	7	18	-	-	-	-	-	-	67	66
16	-	-	-	26	-	-19	-1	-	10	-9	-	-	-	-	-	-	6	-178
17	-	-	-	-	-	-72	15	-	-37	10	32	-	-	-	-	-	2	-106
18	-	-	-	-	-	-	-	-	-32	3	-	-	-	-	-	-	-	4
19	-	-	-	-	-	-	126	-	19	1	-	-	-	-	-	-	112	-10
20	-	-	-	-	-	56	54	-	45	6	20	-	-	-	-	-	68	20
21	-	-	-	-	-	-	-	-	80	-25	-	-	-	-	-	-	63	-
22	-	-	-	-	-	112	63	-	7	-38	-	-	-	-	-	-	79	-
23	-	-	-	-	-	35	63	-	17	12	-	-	-	-	-	-	-	-
24	35	93	-	125	112	71	88	35	-	71	-	-	-	-	-	-	129	-
25	-	160	-	-	-	89	70	100	25	112	-	-	-	-	-	-	98	800
26	-	-	-	32	-	17	-	63	-	100	71	-	-	-	-	-	42	68
27	-	160	32	-	180	32	-	63	-	-	-	160	-	63	-	-	-	224
28	225	-1	50	125	112	63	128	-	-	63	-	-	-	-	-	58	166	334
29	-	-	-	-	-	-	-	-	125	17	-	-	-	-	-	-	-	-
30	66	38	-	63	63	40	31	71	43	80	32	22	-	-	-	100	42	-
31	6	30	26	40	35	22	22	13	-1	-	-	-	-	-	315	37	31	*63



LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	7	0	0	7	6	2
2	6	2	0	16	6	5
3	0	0	0	12	0	5
4	2	0	0	5	0	3
5	1	0	0	12	1	0
6	0	0	0	8	1	9
7	2	0	0	8	2	6
8	3	0	0	16	2	4
9	1	3	0	2	3	4
10	14	4	0	5	3	5
11	-	6	0	13	1	3
12	-	3	3	14	4	3
13	-	4	0	12	25	0
14	-	0	0	25	8	3
15	-	5	0	5	8	2
16	-	7	0	3	4	2
17	0	3	0	8	4	1
18	0	4	0	4	3	1
19	0	4	11	2	0	1
20	0	4	11	7	4	2
21	2	9	15	0	5	1
22	-	8	15	0	8	0
23	2	0	10	0	5	0
24	2	31	29	4	7	8
25	1	8	0	0	6	0
26	9	0	0	10	6	5
27	7	0	1	4	4	5
28	8	0	9	15	4	16
29	6	0	10	13	2	10
30	8	6	12	5	2	0
31	2	7	0	0	0	0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	1.5	0.8	1.4	4.5	4.0	0.6
2	1.7	0.7	0.0	5.4	3.6	1.9
3	0.2	-	1.0	2.8	1.6	1.9
4	1.5	1.5	1.5	4.0	2.6	1.2
5	0.5	0.7	1.0	0.9	0.5	0.7
6	1.0	0.6	0.9	1.5	1.1	1.5
7	0.5	2.0	1.4	0.6	0.4	2.4
8	1.2	1.0	1.8	2.8	0.8	1.9
9	1.9	0.2	4.1	7.7	2.0	1.7
10	0.3	1.9	2.9	3.6	1.4	1.4
11	-	0.9	2.6	1.8	1.2	1.9
12	-	2.7	2.6	0.0	1.7	1.0
13	-	0.6	3.5	3.6	0.5	1.0
14	-	6.9	2.9	2.3	0.7	1.8
15	-	2.5	5.4	2.7	0.3	1.5
16	-	0.6	0.6	3.1	0.6	1.2
17	0.6	1.5	1.7	1.5	0.6	1.1
18	0.3	1.2	0.7	0.6	0.1	0.8
19	2.1	5.3	4.8	0.5	0.8	0.7
20	2.0	3.2	3.5	1.6	2.1	1.0
21	5.3	12.5	8.2	4.2	3.8	0.2
22	16.7	12.4	13.8	16.2	15.2	0.4
23	7.5	6.2	11.3	7.1	5.7	1.0
24	28.8	32.1	19.4	33.7	28.0	4.1
25	6.0	7.7	4.4	12.3	11.8	0.7
26	6.8	3.5	1.4	-	2.6	1.8
27	0.9	7.2	4.0	7.8	5.9	1.2
28	5.1	2.3	2.9	5.8	4.4	3.3
29	2.0	2.6	3.6	3.9	2.6	1.3
30	2.1	0.3	1.0	3.2	0.0	2.5
31	1.2	0.3	1.0	2.3	0.1	0.5

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

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PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	14	20	15	25	35	9	15	3	2	0	0	0	0	0	27	24	11
2	4	5	6	11	12	2	6	3	0	0	0	0	0	5	32	3	4
3	0	0	7	17	21	7	6	8	4	12	7	10	9	0	18	11	8
4	9	10	14	18	42	26	32	12	3	0	4	16	5	5	12	11	19
5	0	0	0	0	0	1	0	0	3	1	0	0	0	0	0	0	12
6	0	0	0	0	5	1	2	0	5	1	0	0	0	0	0	0	7
7	0	0	0	2	0	3	2	0	1	3	0	0	0	0	0	0	4
8	0	0	0	0	0	0	1	0	7	2	0	0	0	0	0	0	8
9	0	0	0	0	0	0	0	0	7	14	0	0	0	0	0	0	0
10	0	0	0	0	0	0	6	0	11	5	0	0	0	0	0	0	12
11	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	33	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	18	2	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
15	0	0	0	0	0	5	28	0	10	23	0	0	0	0	0	0	93
16	0	0	0	5	0	3	66	0	12	2	0	0	0	0	12	0	34
17	0	0	0	0	0	1	18	0	9	0	3	0	0	0	0	0	6
18	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0
19	0	0	0	0	0	6	14	0	16	3	0	0	0	0	0	0	4
20	0	0	0	0	0	23	17	0	33	3	1	0	0	0	0	0	9
21	0	0	0	0	0	0	0	0	55	1	0	0	0	0	0	0	7
22	0	0	0	0	0	5	5	0	37	9	0	0	0	0	0	0	46
23	0	0	0	0	0	6	3	0	56	8	0	0	0	0	0	0	0
24	1	18	0	22	25	57	75	5	0	5	0	0	0	0	0	0	27
25	0	4	0	0	0	32	12	6	17	6	0	0	0	0	0	0	15
26	0	0	0	1	0	6	0	7	0	1	1	0	0	0	0	0	6
27	0	4	4	0	6	2	0	1	0	0	0	12	0	3	0	0	0
28	22	19	5	31	37	18	14	0	0	2	0	0	0	0	0	45	14
29	0	0	0	0	0	0	0	0	12	3	0	0	0	0	0	0	0
30	8	5	0	22	20	27	27	3	24	25	2	23	0	0	0	5	43
31	15	36	10	10	19	37	41	9	15	0	0	0	0	0	0	10	22

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MARCH 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	572	263	167	673	656	183	400	499	44	0	0	0	0	0	538	676	364
2	149	83	53	180	280	36	126	96	0	0	0	0	0	285	560	62	73
3	0	0	-2	270	363	41	57	100	-94	78	58	197	120	0	164	93	107
4	204	172	-110	266	810	501	632	231	50	0	45	236	44	42	174	82	471
5	0	0	0	0	0	-3	0	0	-21	7	0	0	0	0	0	0	233
6	0	0	0	0	97	12	3	0	-1091	8	0	0	0	0	0	0	212
7	0	0	0	-34	0	19	-20	0	3	87	0	0	0	0	0	0	123
8	0	0	0	0	0	0	2	0	40	-93	0	0	0	0	0	0	84
9	0	0	0	0	0	0	0	0	102	-332	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	-21	51	0	0	0	0	0	0	92
11	0	0	0	0	0	0	0	0	0	45	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	505	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	44	17	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	453	0	0	0	0	0	0	0
15	0	0	0	0	0	2	231	0	64	344	0	0	0	0	0	0	1152
16	0	0	0	55	0	-172	-60	0	250	-11	0	0	0	0	0	0	205
17	0	0	0	0	0	-78	148	0	-177	4	10	0	0	0	0	0	6
18	0	0	0	0	0	0	0	0	-55	12	0	0	0	0	0	0	0
19	0	0	0	0	0	0	144	0	307	7	0	0	0	0	0	0	71
20	0	0	0	0	0	182	210	0	367	26	5	0	0	0	0	0	97
21	0	0	0	0	0	0	0	0	901	-228	0	0	0	0	0	0	50
22	0	0	0	0	0	64	30	0	324	-1185	0	0	0	0	0	0	704
23	0	0	0	0	0	22	20	0	105	103	0	0	0	0	0	0	0
24	22	243	0	406	321	850	1319	20	0	108	0	0	0	0	0	0	780
25	0	81	0	0	0	476	160	32	247	89	0	0	0	0	0	0	399
26	0	0	0	16	0	37	0	84	0	67	20	0	0	0	0	0	91
27	0	71	17	0	138	9	0	8	0	0	0	112	0	22	0	0	0
28	286	-2	25	676	499	301	244	0	0	20	0	0	0	0	0	517	317
29	0	0	0	0	0	0	0	0	119	58	0	0	0	0	0	0	0
30	67	97	0	277	377	402	558	27	407	509	8	70	0	0	0	32	1136
31	57	561	81	125	272	580	473	89	-18	0	0	0	0	0	341	177	379

NORWEGIAN INSTITUTE FOR AIR RESEARCH

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LRTAP GROUND SAMPLING STATIONS

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MONTHLY SUMMARY OF RESULTS - APRIL 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREØDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TÅGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	1.3	2.2	0.0	7.6	1.1	19.2	10.5	0.0	5.2	0.8	1.1	7.5	3.0	0.0	1.5	0.0	3.5
2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	2.4	4.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8
3	0.0	0.0	0.0	0.0	0.0	2.0	0.5	0.0	0.9	15.3	0.0	0.0	3.0	0.0	0.0	0.0	0.0
4	22.0	25.0	10.2	18.8	26.6	40.4	48.3	11.1	6.8	2.9	1.8	20.4	10.4	9.5	11.1	5.7	20.7
5	2.2	5.7	0.0	1.8	1.6	18.5	12.7	0.6	8.7	2.0	1.4	0.0	0.0	0.0	0.0	0.0	3.6
6	0.0	0.0	0.0	1.2	0.0	0.3	1.7	0.0	2.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	12.4
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.2	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.8	1.6	0.2	1.7	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.6	0.3	0.8	6.3	7.6	0.8	15.3	0.0	0.0	2.0	0.0	4.5	0.0	0.0	7.6
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	1.8	0.9	0.0	0.0	0.0	0.0	0.0	1.9
14	0.0	0.0	0.0	0.0	0.0	0.8	4.4	0.0	1.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	7.7
15	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
16	0.0	0.0	0.0	0.2	0.0	3.6	10.1	0.0	18.5	2.6	7.4	2.9	3.0	0.0	0.0	0.0	8.6
17	0.0	0.0	0.0	0.0	0.0	2.3	1.6	0.0	10.9	1.5	3.1	0.0	0.0	0.0	0.0	0.0	0.2
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	1.0	2.2	0.0	3.6	0.0	0.0	0.0
19	3.2	2.0	0.8	0.0	1.9	0.0	0.0	2.4	0.0	0.0	0.0	3.8	0.0	3.9	0.8	1.7	0.0
20	13.1	10.2	3.8	7.0	11.9	0.0	0.9	8.1	0.0	0.4	1.5	4.2	0.0	5.1	0.5	9.3	0.0
21	10.8	4.1	8.0	2.4	5.2	0.0	0.6	11.5	0.0	0.0	0.5	0.0	0.0	0.0	8.3	5.7	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.8	1.6	0.0	0.8	0.7	0.7	7.8	0.0	0.0	0.0	0.0	1.0
26	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	2.7	0.0	0.0	0.0	3.0	3.0	0.0	0.0	7.7
27	0.4	2.2	1.3	1.1	1.1	3.2	0.6	0.7	0.0	0.0	2.1	5.2	0.0	1.1	0.0	0.0	0.6
28	3.5	9.0	6.0	9.5	4.8	6.4	1.5	5.0	0.6	0.2	0.0	0.0	3.0	5.3	0.0	0.0	7.6
29	0.0	0.0	0.0	0.0	0.0	5.7	1.1	0.0	0.0	1.1	8.3	0.0	3.0	0.0	0.0	0.0	10.2
30	42.0	11.8	24.7	13.4	33.1	18.0	11.8	36.3	9.2	0.0	0.0	0.0	23.6	12.8	9.5	21.2	10.8

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 24
1	2.5	0.0	8.8	3.4	18.2	9.7	0.0	6.7	1.1	1.0	0.0	3.4
2	0.0	0.0	0.0	0.1	0.1	0.0	0.0	2.9	5.0	0.0	0.0	4.0
3	0.0	0.0	0.0	0.0	2.1	0.4	0.0	1.8	20.3	0.0	0.0	1.0
4	27.0	10.8	20.4	30.5	36.5	48.3	10.8	7.1	6.5	2.8	8.9	21.5
5	6.3	0.0	2.8	2.5	17.5	12.6	0.5	9.5	2.5	1.9	0.0	5.0
6	0.0	0.0	3.5	0.3	0.2	1.8	0.0	2.5	0.7	0.0	0.0	13.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.1	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	2.0	0.0	0.1	0.0	1.1	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.7	1.0	0.1	2.6	0.3	0.2	0.0	0.0
10	0.0	0.2	0.8	1.0	6.2	7.8	0.7	16.7	0.0	0.0	4.6	9.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	2.6	1.0	0.0	2.1
14	0.0	0.0	0.0	0.0	0.9	4.0	0.0	5.4	3.4	0.0	0.0	8.5
15	0.0	0.0	0.0	0.0	0.0	0.1	0.0	5.4	0.0	0.0	0.0	5.0
16	0.0	0.0	0.9	0.0	4.1	9.4	0.0	18.6	3.3	2.5	0.0	10.5
17	0.0	0.0	0.0	0.0	2.4	3.5	0.0	11.7	1.7	3.8	0.0	1.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.0	0.9	4.1	0.0
19	2.0	0.6	0.0	2.0	0.0	0.0	2.8	0.0	0.0	0.0	4.1	0.0
20	12.0	3.5	7.7	8.2	0.0	1.0	8.5	0.0	0.4	1.6	5.4	0.0
21	4.5	6.7	3.4	8.0	0.0	0.5	12.8	0.0	0.0	0.5	0.0	0.0
22	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.0	1.2	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.6	1.5	0.0	0.9	1.2	0.7	0.0	2.8
26	0.0	0.0	0.0	0.0	0.3	0.0	0.0	3.7	0.0	0.0	6.1	9.0
27	2.5	0.8	2.5	1.8	3.3	4.0	1.2	0.0	0.1	2.2	1.3	2.0
28	9.3	6.1	10.5	5.5	5.5	3.9	5.0	1.2	0.2	0.0	5.5	8.0
29	0.0	0.0	0.0	0.0	5.4	1.7	0.0	0.0	1.3	8.6	0.0	13.0
30	4.6	21.6	12.7	31.7	17.3	12.3	34.5	9.2	0.0	0.0	12.0	15.0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	0.11	0.09	-	2.35	0.62	0.25	0.53	-	0.05	0.06	0.12	0.10	-	-	0.50	-	2.03	0.25
2	-	-	-	-	-	-	-	-	0.31	0.04	-	-	-	-	-	-	0.42	0.94
3	-	-	-	-	-	0.46	0.92	-	0.27	0.15	-	-	-	-	-	-	-	0.45
4	0.19	-	0.14	1.83	0.45	0.03	0.08	0.09	0.04	0.03	0.10	0.04	0.02	0.01	1.35	1.84	0.12	0.03
5	0.38	0.45	-	5.90	0.88	0.45	0.40	0.25	0.10	0.02	0.09	-	-	-	-	-	0.14	1.74
6	-	-	-	8.15	-	0.50	0.50	-	-	0.17	-	-	-	-	-	-	0.04	-
7	-	-	-	-	-	-	-	-	0.15	-	-	-	-	-	-	-	-	0.11
8	-	-	-	-	-	0.46	-	0.90	-	0.22	-	-	-	-	-	-	-	0.22
9	-	-	-	-	-	0.47	0.26	0.27	0.08	0.12	0.28	-	-	-	-	-	-	-
10	-	-	0.31	4.00	0.94	0.06	0.53	0.07	0.01	-	-	0.08	-	0.01	-	-	0.36	0.10
11	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	-	-	-	0.21
12	-	-	-	-	-	-	-	-	0.34	0.11	-	-	-	-	-	-	-	0.25
13	-	-	-	-	-	-	-	-	-	0.04	0.09	-	-	-	-	-	0.24	-
14	-	-	-	-	-	0.13	0.39	-	0.09	0.49	-	-	-	-	-	-	0.14	0.05
15	-	-	-	-	-	-	1.70	-	0.01	-	-	-	-	-	-	-	0.04	0.06
16	-	-	-	5.20	-	0.61	0.56	-	0.10	0.08	0.04	0.08	-	-	-	-	0.52	0.20
17	-	-	-	-	-	0.59	1.24	-	0.06	0.03	0.06	-	-	-	-	-	-	0.07
18	-	-	-	-	-	-	-	-	-	0.02	0.09	0.04	-	0.02	-	-	-	0.01
19	0.01	0.03	0.13	-	0.12	-	-	0.03	-	-	-	0.01	-	0.01	0.30	0.28	-	0.03
20	0.08	0.03	0.20	0.30	0.08	-	0.24	0.02	-	0.14	0.12	0.01	-	-	6.70	1.05	-	-
21	0.04	0.03	0.06	0.05	0.08	-	0.24	0.02	-	-	0.68	-	-	-	0.20	0.16	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	0.08	0.02	-	-	-	-	-	-	-	0.20
25	-	-	-	-	-	0.56	0.62	-	0.16	0.08	0.12	0.05	-	-	-	-	0.90	0.25
26	-	-	-	-	-	0.56	-	-	0.10	-	-	-	-	0.10	-	-	0.22	-
27	-	0.14	0.34	3.50	1.17	0.08	0.54	0.12	-	-	-	0.75	-	-	-	-	0.60	-
28	0.20	0.07	0.08	0.65	0.22	0.05	0.28	0.08	0.05	-	0.04	-	-	0.04	-	-	0.60	-
29	-	-	-	-	-	0.45	1.05	-	-	0.04	-	-	-	-	-	-	0.74	0.08
30	0.67	0.03	0.07	0.17	0.11	0.05	0.08	0.01	-	-	-	-	0.07	0.03	0.80	0.70	0.18	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	0.3	0.2	-	0.6	0.0	0.3	1.0	-	0.4	2.1	3.2	1.6	-	-	5.7	-	0.8	2.0
2	-	-	-	-	-	-	-	-	0.9	0.2	-	-	-	-	-	-	1.1	2.2
3	-	-	-	-	-	2.3	2.7	-	0.8	0.3	-	-	-	-	-	-	-	2.2
4	2.0	2.0	1.6	2.1	2.0	0.6	1.4	1.7	0.5	0.4	2.2	1.5	0.9	1.3	2.6	4.3	1.4	3.4
5	0.5	0.6	-	0.0	0.0	0.4	0.7	1.2	0.8	0.0	1.9	-	-	-	-	-	0.2	2.7
6	-	-	-	0.6	-	0.0	0.9	-	-	2.6	-	-	-	-	-	-	0.4	-
7	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	2.5
8	-	-	-	-	-	0.2	-	4.6	-	1.8	-	-	-	-	-	-	-	2.5
9	-	-	-	-	-	0.4	1.8	3.5	0.4	1.1	2.4	-	-	-	-	-	-	-
10	-	-	4.4	2.3	1.0	0.3	1.1	1.4	0.4	-	-	2.8	-	0.7	-	-	0.7	4.1
11	-	-	-	-	-	-	-	-	2.8	-	-	-	-	-	-	-	-	6.6
12	-	-	-	-	-	-	-	-	4.5	0.5	-	-	-	-	-	-	-	4.9
13	-	-	-	-	-	-	-	-	-	0.2	0.9	-	-	-	-	-	1.3	-
14	-	-	-	-	-	4.2	5.6	-	0.7	1.8	-	-	-	-	-	-	3.1	1.2
15	-	-	-	-	-	-	12.2	-	1.0	-	-	-	-	-	-	-	1.7	4.8
16	-	-	-	3.2	-	1.7	0.9	-	0.5	0.3	0.7	3.8	-	-	-	-	0.8	0.6
17	-	-	-	-	-	1.5	1.9	-	0.3	0.4	0.9	-	-	-	-	-	-	1.3
18	-	-	-	-	-	-	-	-	-	1.6	0.6	1.9	-	2.7	-	-	-	0.9
19	1.0	1.4	2.3	-	1.6	-	-	2.0	-	-	-	1.8	-	2.8	2.5	4.2	-	1.6
20	5.5	2.6	4.2	1.4	3.3	-	2.4	3.0	-	3.2	2.7	2.1	-	-	36.3	5.7	-	-
21	4.5	5.6	3.2	7.1	6.1	-	6.6	4.5	-	-	19.3	-	-	-	9.2	5.0	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	1.4	0.3	-	-	-	-	-	-	-	2.7
25	-	-	-	-	-	6.3	5.5	-	1.5	0.3	5.2	4.3	-	-	-	-	7.3	1.9
26	-	-	-	-	-	3.9	-	-	1.6	-	-	-	-	12.5	-	-	2.1	-
27	1.5	1.2	6.6	3.2	3.9	1.3	2.6	3.4	-	-	-	0.5	-	-	-	-	3.1	-
28	9.0	4.4	6.7	4.3	5.5	1.5	3.2	4.1	1.4	-	2.5	-	-	3.1	-	-	2.0	-
29	-	-	-	-	-	1.4	0.8	-	-	3.1	-	-	-	-	-	-	1.0	6.2
30	4.4	4.0	3.4	3.3	5.2	2.4	4.1	1.7	-	-	-	-	7.6	2.9	7.3	6.3	4.7	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

PH IN PRECIPITATION

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	5.05	5.00	-	5.60	5.90	5.20	5.40	-	5.15	4.50	5.10	5.50	-	-	4.95	-	5.40	4.55
2	-	-	-	-	-	-	-	-	6.15	5.45	-	-	-	-	-	-	5.50	5.00
3	-	-	-	-	-	4.40	6.30	-	6.05	5.30	-	-	-	-	-	-	-	6.30
4	4.25	4.30	4.30	4.40	4.45	4.75	4.70	4.35	5.15	5.00	5.25	4.70	5.10	4.45	4.50	4.35	4.45	4.45
5	4.70	4.70	-	5.05	5.10	5.10	5.65	5.00	5.40	4.60	5.25	-	-	-	-	-	5.00	5.35
6	-	-	-	5.50	-	5.10	6.05	-	-	4.25	-	-	-	-	-	-	5.00	-
7	-	-	-	-	-	-	-	-	6.15	-	-	-	-	-	-	-	-	4.90
8	-	-	-	-	-	5.15	-	4.50	-	4.90	-	-	-	-	-	-	-	4.60
9	-	-	-	-	-	5.50	5.35	4.80	5.95	-	-	-	-	-	-	-	-	-
10	-	-	4.65	-	5.00	5.40	5.30	5.95	5.55	-	-	5.74	-	5.00	-	-	4.80	4.30
11	-	-	-	-	-	-	-	-	6.35	-	-	-	-	-	-	-	-	4.00
12	-	-	-	-	-	-	-	-	5.45	4.81	-	-	-	-	-	-	-	4.25
13	-	-	-	-	-	-	-	-	-	5.58	5.70	-	-	-	-	-	4.70	-
14	-	-	-	-	-	4.20	4.10	-	6.00	4.70	-	-	-	-	-	-	4.30	6.00
15	-	-	-	-	-	-	-	-	5.48	-	-	-	-	-	-	-	4.65	5.25
16	-	-	-	-	-	5.84	5.75	-	6.05	-	5.75	7.00	-	-	-	-	5.40	-
17	-	-	-	-	-	5.97	7.05	-	6.33	5.19	5.45	-	-	-	-	-	-	5.15
18	-	-	-	-	-	-	-	-	-	4.80	5.20	4.92	-	4.50	-	-	-	5.40
19	4.59	4.80	6.30	-	5.26	-	-	4.70	-	-	-	4.70	-	4.45	4.35	4.53	-	6.25
20	4.00	4.85	6.70	4.60	4.40	-	-	4.33	-	4.32	4.60	4.50	-	-	3.80	4.25	-	-
21	4.20	4.65	4.90	4.00	4.30	-	-	4.50	-	-	5.70	-	-	-	4.20	4.65	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	6.57	5.00	-	-	-	-	-	-	-	-
25	-	-	-	-	-	5.90	5.10	-	-	5.50	3.96	4.69	-	-	-	-	5.80	-
26	-	-	-	-	-	-	-	-	6.18	-	-	-	-	4.15	-	-	4.80	-
27	4.60	4.70	6.70	6.60	7.20	5.44	-	6.90	-	-	6.80	4.79	-	5.90	-	-	5.15	-
28	4.00	4.15	4.02	4.40	6.83	4.70	6.40	4.35	-	-	4.89	-	-	4.20	-	-	4.35	-
29	-	-	-	-	-	4.79	6.05	-	-	4.30	-	-	-	-	-	-	5.04	3.95
30	4.40	4.42	4.60	4.32	4.27	4.52	4.70	4.50	-	-	-	-	4.10	4.40	4.17	4.30	3.99	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 25
1	-6	10	-	-6	-2	2	1	-	0	32	8	-9	-	-	-11	-	1	26
2	-	-	-	-	-	-	-	-	-92	-1	-	-	-	-	-	-	5	14
3	-	-	-	-	-	40	-	-	-15	2	-	-	-	-	-	-	-	-
4	52	50	50	40	57	17	18	45	3	10	4	12	0	35	50	72	34	70
5	12	20	-	4	10	5	-2	10	-19	25	-2	-	-	-	-	-	6	3
6	-	-	-	-2	-	8	-22	-	-	56	-	-	-	-	-	-	16	-
7	-	-	-	-	-	-	-	-	-79	-	-	-	-	-	-	-	-	14
8	-	-	-	-	-	2	-	32	-	13	-	-	-	-	-	-	-	48
9	-	-	-	-	-	0	-6	16	-32	-	-	-	-	-	-	-	-	-
10	-	-	22	-	10	-3	-7	-	-6	-	-	2	-	10	-	-	12	48
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100
12	-	-	-	-	-	-	-	-	1	30	-	-	-	-	-	-	-	50
13	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	18	-
14	-	-	-	-	-	63	40	-	-32	20	-	-	-	-	-	-	52	-50
15	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	23	4
16	-	-	-	-	-	-6	-11	-	-13	-	-14	-121	-	-	-	-	2	0
17	-	-	-	-	-	-8	-280	-	-41	16	-5	-	-	-	-	-	-	6
18	-	-	-	-	-	-	-	-	-	27	6	20	-	36	-	-	-	2
19	23	16	-15	-	-2	-	-	31	-	-	-	23	-	35	42	16	-	-14
20	86	11	-97	24	47	-	-24	56	-	50	24	34	-	-	160	56	-	-
21	56	7	13	103	68	-	-	55	-	-	-	-	-	-	72	21	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-47	10	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-4	-84	-	-	0	112	30	-	-	-	-	-	0
26	-	-	-	-	-	-3	-	-	-13	-	-	-	-	76	-	-	13	-
27	25	10	-202	-	-	-3	-28	-	-	-	-60	24	-	-4	-	-	6	-
28	164	86	125	61	-75	25	-95	63	-	-	21	-	-	53	-	-	13	-
29	-	-	-	-	-	24	-7	-	-	50	-	-	-	-	-	-	10	116
30	56	49	34	60	61	43	28	32	-	-	-	-	80	47	87	70	128	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	0	6	0	0	0	0
2	0	6	0	2	2	1
3	0	5	0	0	1	2
4	0	0	0	3	4	2
5	0	0	0	1	3	0
6	2	0	0	3	3	2
7	0	4	6	3	0	3
8	0	4	5	11	1	1
9	3	5	5	0	3	0
10	3	3	5	0	5	0
11	1	0	3	3	0	0
12	3	9	2	4	0	0
13	3	1	0	5	0	0
14	0	0	2	8	0	0
15	0	0	4	6	0	0
16	0	0	3	1	2	4
17	0	3	5	3	0	5
18	1	2	2	2	1	5
19	2	0	3	0	3	6
20	-	0	3	0	0	3
21	0	0	0	2	5	5
22	0	5	0	15	5	3
23	0	9	0	9	5	0
24	0	0	0	0	2	0
25	0	0	3	3	0	4
26	0	5	5	4	1	0
27	0	3	0	4	2	2
28	9	8	0	3	4	3
29	10	11	0	4	2	2
30	0	11	0	5	6	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	0.0	0.3	-	-	0.0	2.0
2	0.1	0.0	-	0.3	0.1	1.3
3	0.3	0.3	-	2.6	0.2	1.4
4	1.0	0.7	-	0.8	2.1	1.0
5	0.1	0.1	-	0.3	0.2	2.1
6	0.2	0.1	-	0.0	0.1	1.5
7	0.1	0.2	1.2	0.4	0.2	1.6
8	0.5	0.2	0.3	1.0	0.6	2.4
9	0.8	0.7	0.8	1.7	0.5	-
10	0.5	0.6	0.4	1.1	0.5	-
11	0.4	0.4	0.5	1.1	0.4	-
12	1.1	0.7	1.3	1.3	0.9	-
13	1.1	1.1	1.1	1.6	1.3	-
14	1.8	2.2	1.8	3.5	1.4	-
15	0.6	0.8	1.2	3.4	1.0	-
16	0.1	0.2	1.2	1.5	0.1	0.1
17	0.1	0.1	0.6	0.4	0.0	1.3
18	0.2	0.1	0.3	0.6	0.1	1.3
19	2.6	1.3	0.6	4.1	0.6	1.3
20	0.0	2.0	3.0	2.1	2.4	3.8
21	3.2	0.1	2.6	4.4	4.6	5.7
22	3.7	0.1	6.8	5.5	6.8	3.0
23	5.5	0.2	7.0	2.6	2.6	0.1
24	3.5	0.1	3.3	0.4	2.5	1.6
25	0.9	0.1	0.4	1.0	0.8	0.1
26	0.5	0.1	0.5	1.6	0.6	1.6
27	0.6	1.0	0.4	2.6	0.3	0.8
28	1.1	1.4	0.3	3.5	2.7	1.3
29	0.7	2.1	1.6	1.8	0.0	1.3
30	3.7	-	2.7	3.2	3.5	1.3

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	0	0	0	5	0	6	11	0	2	2	3	12	0	0	9	0	3
2	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	4
3	0	0	0	0	0	5	1	0	1	5	0	0	0	0	0	0	0
4	44	50	16	39	53	24	68	19	3	1	4	31	9	12	29	25	29
5	1	3	0	0	0	7	9	1	7	0	3	0	0	0	0	0	1
6	0	0	0	1	0	0	2	0	0	1	0	0	0	0	0	0	5
7	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
9	0	0	0	0	0	0	3	1	1	0	1	0	0	0	0	0	0
10	0	0	3	1	1	2	8	1	6	0	0	6	0	3	0	0	5
11	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	-	0	1	0	0	0	0	0	3
14	0	0	0	0	0	3	25	0	1	3	0	0	0	0	0	0	24
15	0	0	0	0	0	0	4	0	5	0	0	0	0	0	0	0	8
16	0	0	0	1	0	6	9	0	9	1	5	11	0	0	0	0	7
17	0	0	0	0	0	3	3	0	3	1	3	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	4	1	4	0	10	0	0	0
19	3	3	2	0	3	0	0	5	0	0	0	7	0	11	2	7	0
20	72	26	16	10	39	0	2	24	0	1	4	9	0	0	17	53	0
21	49	23	25	17	32	0	4	52	0	0	10	0	0	0	76	29	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
25	0	0	0	0	0	5	9	0	1	0	4	33	0	0	0	0	7
26	0	0	0	0	0	1	0	0	4	0	0	0	0	37	0	0	16
27	1	3	8	4	4	4	2	2	0	0	0	3	0	0	0	0	2
28	32	40	41	41	27	10	5	20	1	0	0	0	0	19	0	0	15
29	0	0	0	0	0	8	1	0	0	3	0	0	0	0	0	0	10
30	185	47	84	44	172	43	48	62	0	0	0	0	179	37	70	133	51

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA APRIL 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	-8	22	0	-45	-2	38	11	0	0	26	9	-68	0	0	-17	0	4
2	0	0	0	0	0	0	0	0	-217	-4	0	0	0	0	0	0	19
3	0	0	0	0	0	79	0	0	-13	31	0	0	0	0	0	0	0
4	1142	1251	509	751	1515	687	869	501	20	29	7	244	0	332	557	413	703
5	27	115	0	7	16	93	-25	6	-165	50	-3	0	0	0	0	0	21
6	0	0	0	-2	0	2	-38	0	0	29	0	0	0	0	0	0	199
7	0	0	0	0	0	0	0	0	-251	0	0	0	0	0	0	0	0
8	0	0	0	0	0	4	0	6	0	10	0	0	0	0	0	0	0
9	0	0	0	0	0	0	-10	3	-53	0	0	0	0	0	0	0	0
10	0	0	14	0	8	-19	-53	0	-92	0	0	4	0	45	0	0	92
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	1	40	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	-	7	0	0	0	0	0	0	35
14	0	0	0	0	0	48	176	0	-59	28	0	0	0	0	0	0	401
15	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	102
16	0	0	0	0	0	-22	-111	0	-241	0	-104	-354	0	0	0	0	17
17	0	0	0	0	0	-18	-446	0	-449	24	-16	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	72	6	45	0	131	0	0	0
19	73	33	-12	0	-4	0	0	73	0	0	0	86	0	135	33	26	0
20	1122	112	-371	168	560	0	-21	456	0	18	36	143	0	0	76	520	0
21	606	29	103	246	355	0	0	634	0	0	0	0	0	0	596	120	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	-141	10	0	0	0	0	0	0	0
25	0	0	0	0	0	-3	-134	0	0	0	78	233	0	0	0	0	0
26	0	0	0	0	0	-1	0	0	-35	0	0	0	0	227	0	0	100
27	10	22	-257	0	0	-10	-18	0	0	0	-126	124	0	-4	0	0	4
28	574	777	756	583	-363	159	-147	313	0	0	0	0	0	332	0	0	99
29	0	0	0	0	0	138	-8	0	0	56	0	0	0	0	0	0	102
30	2353	577	840	802	2019	772	330	1161	0	0	0	0	1894	503	831	1482	1385



NORWEGIAN INSTITUTE FOR AIR RESEARCH

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LRTAP GROUND SAMPLING STATIONS

MONTHLY SUMMARY OF RESULTS - MAY 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS			LOCATIONS			
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGHYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539







LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MAY 73

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SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	0	9	0	8	7	4
2	0	5	2	3	4	3
3	0	5	2	9	4	2
4	5	6	2	10	4	2
5	4	0	0	2	5	7
6	4	0	0	2	7	0
7	4	0	0	2	0	0
8	4	6	0	0	0	0
9	6	8	0	5	0	0
10	0	0	0	1	0	0
11	0	0	0	4	0	0
12	9	5	2	5	2	4
13	6	6	0	6	0	4
14	5	7	0	8	2	1
15	3	8	3	11	3	2
16	2	7	0	9	3	5
17	0	4	0	9	3	4
18	3	0	0	7	7	0
19	23	3	0	22	4	0
20	14	2	0	11	5	2
21	22	3	0	27	6	3
22	6	0	0	11	0	0
23	11	0	0	8	0	2
24	8	0	0	6	0	0
25	12	0	0	6	0	2
26	25	5	0	1	0	4
27	16	11	4	2	5	0
28	9	9	1	3	16	0
29	11	11	3	6	4	0
30	10	6	3	4	3	1
31	2	3	0	2	3	1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MAY 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	3.7	0.2	1.4	7.1	4.9	0.1
2	1.0	0.8	1.0	1.8	1.3	0.7
3	1.2	0.4	0.5	1.5	1.1	1.8
4	2.2	0.9	3.0	3.3	2.1	1.6
5	4.8	-	1.8	0.0	3.9	3.8
6	6.0	6.2	4.7	26.0	2.2	1.2
7	4.3	2.5	7.9	5.2	1.6	1.7
8	4.2	5.2	3.4	5.5	4.3	1.2
9	4.4	3.4	3.6	5.8	5.5	0.9
10	1.6	0.8	0.9	2.1	2.7	0.9
11	0.5	3.5	0.5	0.8	0.6	1.2
12	2.4	0.4	1.3	3.5	3.3	0.8
13	1.5	2.5	0.6	2.4	0.2	0.5
14	0.5	0.4	0.6	0.2	0.3	0.5
15	0.3	1.1	0.0	0.4	0.3	0.7
16	0.7	0.0	0.8	0.8	4.3	0.8
17	0.5	1.6	1.2	0.7	0.9	1.2
18	1.7	1.3	1.3	2.5	2.0	1.5
19	2.3	0.1	1.1	4.0	3.8	1.2
20	3.1	3.2	3.4	4.4	3.2	1.9
21	3.3	0.5	2.7	2.3	2.2	3.1
22	2.8	0.3	3.2	2.6	2.3	1.5
23	5.5	0.2	5.6	6.4	8.5	1.1
24	8.1	0.0	4.7	3.9	8.2	3.4
25	4.0	0.3	4.3	4.8	6.0	3.0
26	8.7	0.7	7.7	8.2	6.1	3.3
27	14.1	5.1	14.1	20.8	17.7	2.5
28	9.8	8.0	9.3	9.7	10.6	2.1
29	10.2	7.2	10.1	9.2	11.3	5.4
30	4.6	6.6	5.5	5.6	5.1	4.5
31	4.1	1.9	4.2	7.5	6.1	1.1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MAY 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	12	19	78	0	0	71	6	21	25	18	19	0	0	0	0	0	6
2	0	0	0	0	0	0	0	0	5	4	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
4	32	19	22	17	43	13	12	15	2	1	0	0	0	2	8	22	9
5	123	83	132	84	133	43	58	69	0	0	22	0	0	57	39	44	19
6	12	11	5	12	52	21	19	4	7	0	0	0	0	0	6	7	10
7	43	24	58	10	44	20	4	34	0	0	7	0	55	14	11	44	4
8	1	0	29	0	0	3	12	4	11	3	7	55	0	37	21	7	6
9	57	49	32	31	61	35	41	33	0	3	2	57	0	10	0	35	16
10	9	9	14	8	12	24	3	9	3	4	22	34	0	15	34	9	5
11	2	1	0	4	7	2	5	0	-	0	4	11	0	0	0	0	-
12	7	13	9	19	40	9	40	4	-	0	9	0	0	0	0	0	35
13	0	6	0	3	12	0	13	1	2	4	4	14	0	0	0	0	3
14	0	0	0	1	0	5	9	0	15	2	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	12	1	10	0	0	0	16	8	0	0	2	0	0	4	0	31	0
19	0	0	0	0	0	0	0	0	2	0	3	0	21	5	0	0	0
20	0	0	0	0	0	0	0	0	1	0	6	0	0	0	0	0	0
21	48	33	29	68	91	38	36	61	0	0	0	6	0	8	30	36	0
22	0	0	0	0	0	0	6	0	0	0	6	9	0	0	0	0	0
23	0	0	18	0	0	0	0	7	0	0	0	0	0	0	11	34	0
24	0	21	31	0	0	7	0	8	0	0	0	20	0	7	56	0	0
25	32	0	8	0	0	0	0	4	0	0	0	0	0	6	0	0	0
26	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	2	0	51	0	4	16	0	0	0	0	157
28	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0
30	206	205	45	62	110	183	84	182	0	0	39	0	215	0	0	0	75
31	91	85	130	18	42	63	55	69	35	0	53	151	0	183	83	136	99

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA MAY 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24
1	90	440	404	0	0	921	14	527	285	344	160	0	0	0	0	0	39
2	0	0	0	0	0	0	0	0	42	42	0	0	0	0	0	0	6
3	0	0	0	0	0	0	0	0	0	34	0	0	0	0	0	0	0
4	735	276	189	289	854	354	18	318	29	0	0	0	0	3	8	621	153
5	2782	1384	1842	1432	2108	1775	870	1581	0	0	296	0	0	1393	684	1620	194
6	302	197	27	199	1141	751	434	95	70	0	0	0	0	0	12	9	139
7	1114	847	645	191	967	583	25	2068	0	0	27	0	222	316	179	746	87
8	0	0	407	0	0	38	0	357	90	79	44	759	0	1324	420	61	100
9	1484	1322	430	570	1180	2327	737	1619	0	48	8	788	0	377	0	648	322
10	218	230	5	159	255	1098	11	462	-78	82	-30	652	0	381	768	138	84
11	4	22	0	74	126	-39	-97	0	-	0	-123	117	0	0	0	0	-
12	109	214	32	312	461	139	595	143	-	0	50	0	0	0	0	0	796
13	0	138	0	103	153	66	73	18	28	34	-235	144	0	0	0	0	-67
14	0	0	0	10	0	-6	55	0	73	24	0	0	0	0	0	0	-42
15	0	0	0	0	0	0	0	0	-71	-3	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	307	-29	-142	0	0	0	141	-18	0	0	-258	0	0	27	0	931	0
19	0	0	0	0	0	0	0	0	-40	0	-503	0	-379	-158	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	410	-32	0	694	742	60	13	360	0	0	0	-10	0	14	170	106	0
22	0	0	0	0	0	0	40	0	0	0	0	33	0	0	0	0	0
23	0	0	168	0	0	0	0	76	0	0	0	0	0	0	113	636	0
24	0	303	407	0	0	-11	0	293	0	0	0	232	0	137	1134	0	0
25	639	0	-10	0	0	0	0	70	0	0	0	0	0	78	0	0	0
26	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	38	0	955	-174	-32	258	0	0	0	0	2788
28	0	0	0	0	0	0	0	0	0	-172	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	2659	3669	68	1020	1110	2500	989	1380	0	0	433	0	1259	0	0	0	1032
31	1945	2110	1512	374	812	1171	1426	955	119	0	-142	1303	0	2075	1327	2026	2214

NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

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MONTHLY SUMMARY OF RESULTS - JUNE 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539
19	N 28	FILLEFJELL	P	60 11 N	8 07 E	956









LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JUNE 73

- 65 -

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	18	2	0	5	2	0
2	7	3	6	3	1	1
3	3	4	4	2	0	0
4	5	0	0	7	4	0
5	10	0	0	7	3	0
6	6	0	1	4	3	-
7	28	0	0	3	3	0
8	6	0	0	0	0	3
9	6	4	21	0	2	2
10	1	2	3	0	12	0
11	1	3	5	1	3	2
12	5	0	2	9	4	0
13	2	6	0	1	8	0
14	1	3	0	2	2	1
15	7	6	0	4	3	0
16	23	15	1	3	4	2
17	2	17	3	4	2	0
18	1	13	4	3	2	3
19	14	3	3	2	3	3
20	3	9	6	3	3	0
21	4	6	1	0	5	1
22	4	12	1	0	0	0
23	8	12	3	3	0	1
24	2	4	3	4	0	1
25	2	0	5	0	0	1
26	6	1	3	0	0	1
27	1	0	0	18	0	18
28	0	3	2	2	6	0
29	7	2	3	25	2	7
30	68	0	0	0	3	0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JUNE 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	2.8	-	-	-	-	-
2	0.4	0.4	0.8	-	-	-
3	3.4	3.5	4.7	-	-	-
4	3.9	3.6	2.3	0.0	4.0	3.0
5	2.5	6.2	2.3	3.5	3.2	0.2
6	0.2	0.8	1.2	4.4	0.9	0.0
7	0.6	0.3	1.1	1.9	1.0	0.2
8	0.4	0.8	0.0	0.5	1.0	0.0
9	1.5	1.4	1.3	1.1	2.5	0.0
10	0.0	2.4	0.8	3.1	0.3	0.1
11	0.7	2.2	1.8	1.5	1.4	0.0
12	7.7	8.7	6.1	9.0	8.0	0.9
13	1.1	3.7	0.0	1.9	1.9	0.9
14	0.2	0.4	0.2	0.2	0.0	0.5
15	0.0	0.4	0.5	0.5	0.4	1.4
16	0.9	1.4	0.7	0.8	1.5	2.8
17	2.1	2.5	4.2	1.2	1.7	1.1
18	1.2	1.0	4.7	1.5	0.8	2.4
19	2.2	2.4	1.8	2.5	3.4	3.1
20	2.1	1.6	4.1	1.1	1.5	4.1
21	1.2	1.7	2.8	1.5	1.3	5.6
22	2.0	1.7	3.0	1.4	2.7	3.4
23	1.9	1.6	0.0	3.6	3.1	3.3
24	3.6	2.7	2.6	5.7	3.8	3.6
25	2.0	1.9	0.6	2.0	2.8	2.1
26	4.9	4.5	4.6	3.5	4.0	7.3
27	1.5	2.0	0.1	5.1	3.4	3.0
28	5.1	3.8	6.8	6.7	5.5	3.6
29	2.3	5.1	4.6	5.4	4.5	0.8
30	3.3	3.8	6.5	4.9	3.8	1.0



NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

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MONTHLY SUMMARY OF RESULTS - JULY 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS			LOCATIONS			
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYDAL	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 27 N	11 16 E	1539
19	N 28	FILLEFJELL	P	60 11 N	8 07 E	956









LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JULY 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	6	3	9	15	2	0
2	5	6	4	39	15	4
3	4	3	0	9	5	6
4	3	0	1	2	2	2
5	5	5	7	4	3	1
6	4	5	0	14	4	1
7	55	3	6	2	5	1
8	3	3	9	2	12	1
9	6	5	4	3	6	1
10	3	5	9	4	1	1
11	2	4	6	2	1	1
12	3	1	2	6	1	1
13	3	1	5	1	1	1
14	12	10	1	1	1	1
15	2	1	1	4	1	1
16	5	9	1	4	11	1
17	11	8	1	16	3	1
18	1	5	1	2	11	1
19	1	7	1	2	1	1
20	3	5	1	4	1	1
21	3	5	1	1	1	1
22	36	12	1	1	1	1
23	6	5	1	-	7	0
24	1	5	1	-	2	0
25	7	3	1	-	1	0
26	3	5	1	-	3	0
27	6	6	1	-	2	0
28	29	18	0	-	0	0
29	2	0	0	-	0	0
30	25	0	0	26	7	4
31	6	0	0	2	3	6

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JULY 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	11.9	13.0	-	-	-	-
2	14.6	9.5	8.0	16.8	12.3	9.4
3	8.3	-	3.2	8.4	5.5	3.5
4	1.0	0.7	-	2.6	1.6	1.2
5	6.5	7.2	10.3	3.5	7.8	1.3
6	7.8	7.4	6.7	8.2	7.9	6.5
7	6.9	4.6	3.3	4.6	4.5	7.3
8	2.5	0.5	0.5	5.8	2.5	2.0
9	0.9	0.5	0.2	1.6	1.4	3.0
10	0.7	0.5	0.2	3.4	0.3	4.6
11	0.5	0.3	1.2	2.0	1.1	1.9
12	2.0	0.6	0.7	0.3	2.1	4.2
13	1.7	1.1	3.8	2.0	1.6	4.1
14	8.8	8.7	9.5	6.9	7.5	6.0
15	11.6	8.8	7.1	11.3	9.5	5.7
16	8.9	10.7	6.1	10.4	7.6	6.6
17	1.8	1.5	1.4	0.0	0.7	5.4
18	0.5	0.4	0.2	1.4	0.4	3.8
19	0.4	0.1	0.6	1.1	0.7	1.9
20	4.6	3.7	1.4	4.9	4.7	2.0
21	1.2	0.5	0.7	2.7	2.0	0.8
22	1.2	0.0	0.6	1.0	1.4	3.6
23	0.9	0.7	1.5	1.2	1.0	3.3
24	1.3	0.0	2.5	-	2.3	1.3
25	0.7	0.2	0.0	-	0.8	2.2
26	0.9	0.4	1.1	-	1.0	1.5
27	2.6	3.2	1.4	-	2.6	3.1
28	3.2	2.6	3.2	-	2.5	3.3
29	2.9	1.6	0.4	-	4.4	2.6
30	1.7	0.1	0.6	2.5	1.9	3.0
31	0.0	0.7	2.5	0.3	0.5	1.3

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JULY 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 28
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	175	0	0	0	0	0	0	0	265	10
3	55	77	14	71	36	63	67	19	67	40	0	0	0	0	31	0	8	114
4	0	0	0	0	0	0	0	0	10	2	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	13	0	5	0	0	0	0	0	0	10	0	0	0	0	0
7	81	96	92	137	98	233	230	166	0	0	45	3	106	63	17	69	160	25
8	0	0	37	0	0	0	0	0	0	12	36	59	0	15	0	40	0	3
9	1	1	3	0	3	0	0	5	0	10	7	4	1	0	64	32	0	0
10	0	0	13	0	0	0	0	2	0	0	1	18	0	8	0	0	0	6
11	0	0	0	0	0	0	0	0	0	4	1	2	11	3	0	0	0	0
12	0	0	0	0	0	0	0	27	0	4	0	5	0	13	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
16	2	3	29	0	1	33	26	7	0	12	19	10	31	16	47	84	0	0
17	4	17	20	26	15	33	39	10	5	6	22	13	0	30	16	0	8	8
18	0	0	3	0	0	0	1	0	3	6	2	0	0	1	0	0	2	0
19	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	3
20	0	0	0	2	2	0	0	0	2	0	16	6	0	11	0	0	0	5
21	0	0	0	0	0	0	0	2	1	0	12	0	0	0	0	0	1	1
22	13	0	0	0	0	1	2	0	0	8	11	8	0	0	0	0	0	0
23	1	0	1	0	5	8	0	5	0	1	5	0	28	14	40	15	0	1
24	1	4	21	2	0	3	10	11	1	2	4	14	0	10	0	0	0	0
25	3	7	0	4	5	1	0	3	0	22	1	0	0	1	4	4	0	0
26	3	38	2	6	8	0	6	3	0	0	11	4	0	4	4	1	0	0
27	0	0	2	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	4	0	5	0	1	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA JULY 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 28
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	2221	0	0	0	0	0	0	0	4129	264
3	1101	1217	143	799	1604	789	366	218	828	461	0	0	0	0	658	0	186	2545
4	0	0	0	0	0	0	0	0	46	-24	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	5	0	0	0	0	0	0	-939	0	0	0	0	0
7	1569	1671	1041	1369	1324	2423	3476	1579	0	0	250	0	-1738	513	98	63	2728	379
8	0	0	703	0	0	0	0	0	0	125	675	562	0	163	0	341	0	218
9	18	6	48	0	51	0	0	83	0	101	-132	40	470	0	1485	447	0	0
10	0	0	328	0	0	0	0	24	0	0	-98	85	0	-89	0	0	0	257
11	0	0	0	0	0	0	0	0	0	115	59	25	-231	-412	0	0	0	0
12	0	0	14	0	0	0	0	697	0	88	0	66	0	121	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	-58	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	-23	0	0	0	0	0	0	0	0
16	57	51	+12	0	23	377	32	76	0	210	155	6	1135	49	641	900	0	0
17	6	384	245	407	402	220	333	286	-62	99	225	122	0	252	218	0	-213	245
18	0	0	78	0	0	0	0	0	-24	-441	87	-97	0	0	0	0	-28	0
19	0	0	0	0	0	0	0	0	0	494	0	0	0	0	0	0	0	61
20	0	0	0	0	95	0	0	0	-257	0	-314	24	0	279	0	0	0	254
21	0	0	0	0	0	0	0	-29	-10	0	-506	0	0	0	0	0	0	56
22	334	0	0	0	0	15	0	0	0	-392	37	87	0	0	0	0	0	14
23	-28	0	54	0	97	181	0	180	0	0	27	0	152	9	890	-49	0	54
24	25	69	314	17	0	129	-154	327	0	0	28	222	0	176	0	0	0	0
25	16	12	0	44	99	0	0	152	0	449	0	0	0	-11	49	18	0	0
26	172	917	73	37	174	0	-78	141	0	0	263	95	0	87	67	22	0	0
27	0	0	14	0	0	0	0	0	0	0	0	-101	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	-3	-229	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	-9	-120	0	0	0	0	0	0	11

NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

MONTHLY SUMMARY OF RESULTS - AUGUST 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539
19	N 28	FILLEFJELL	P	60 11 N	8 07 E	956







LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA AUGUST 73

SO2 IN AIR ( MICROGPAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	15	1	1	1	3	9
2	4	1	1	1	5	6
3	14	19	1	1	8	6
4	16	5	5	1	8	5
5	4	5	4	1	4	6
6	1	5	15	1	4	5
7	2	5	8	1	4	5
8	7	3	3	1	5	5
9	10	4	4	5	1	3
10	4	1	2	4	4	2
11	1	8	4	5	8	1
12	1	5	2	4	3	1
13	3	3	3	4	3	1
14	14	1	3	9	7	3
15	24	1	2	5	8	1
16	40	5	4	16	7	3
17	40	10	1	10	15	4
18	4	5	1	1	11	3
19	5	2	1	5	18	6
20	3	2	1	3	11	13
21	4	20	1	5	2	2
22	4	4	1	2	1	1
23	2	2	1	2	1	1
24	1	4	1	2	3	3
25	29	1	2	2	2	1
26	4	1	2	2	5	3
27	4	1	4	30	4	5
28	4	1	4	1	6	10
29	4	1	4	1	3	9
30	2	1	4	1	2	3
31	2	1	2	1	3	1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA AUGUST 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	2.9	5.0	4.3	3.1	4.1	1.4
2	5.2	6.7	8.7	9.8	6.5	3.8
3	17.4	13.1	8.4	15.1	10.7	8.6
4	0.3	1.3	0.9	5.2	1.7	3.7
5	1.6	0.8	0.1	1.8	1.0	0.8
6	0.9	1.6	0.4	3.2	3.1	0.7
7	0.4	0.9	1.4	1.7	1.2	1.0
8	0.7	0.6	0.9	0.8	0.5	1.8
9	1.6	2.3	4.6	3.4	2.5	1.0
10	1.0	1.0	1.5	2.2	0.8	0.9
11	0.3	0.7	0.6	1.0	0.9	1.2
12	0.7	0.7	1.3	1.3	0.9	1.6
13	1.0	1.0	1.2	2.4	1.3	1.3
14	1.0	0.7	2.1	2.2	1.3	3.4
15	2.1	2.5	3.5	4.3	2.2	4.0
16	0.7	3.9	5.1	7.9	4.1	2.5
17	4.4	5.6	0.6	10.0	6.5	4.7
18	0.6	0.3	0.3	0.6	0.4	0.4
19	0.5	0.7	0.7	0.5	0.4	0.6
20	0.6	0.1	0.3	0.7	0.3	0.4
21	0.4	0.7	0.6	0.4	0.3	0.3
22	0.7	0.0	1.0	0.7	0.5	0.8
23	3.3	2.3	1.4	2.1	2.6	1.1
24	4.7	0.2	0.8	3.2	4.1	0.3
25	0.4	2.4	2.3	1.2	0.9	0.4
26	7.4	4.9	2.2	7.1	7.0	1.9
27	5.4	3.3	0.5	12.1	0.1	3.6
28	8.2	7.1	4.0	6.3	0.1	8.8
29	7.5	2.8	4.5	0.2	0.1	12.5
30	2.9	1.2	3.5	2.0	0.4	1.3
31	0.5	0.2	0.5	4.3	0.2	1.3





NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

MONTHLY SUMMARY OF RESULTS - SEPTEMBER 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	8 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TÅGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	PA	62 26 N	11 16 E	1539
19	N 26	VATNEALEN	PA	59 28 N	7 22 E	800
20	N 28	FILLEFJELL	P	60 11 N	8 07 E	956

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA SEPTEMBER 73

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AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 28
1	5.4	3.3	3.5	7.2	0.9	9.4	8.1	3.4	26.7	11.0	15.4	3.4	0.0	4.3	0.8	1.3	14.4	2.5	0.0
2	2.5	5.7	0.0	0.5	0.0	11.9	14.3	0.8	46.2	8.2	6.7	0.0	0.0	0.0	0.0	0.0	19.6	-	1.3
3	0.0	0.0	0.0	0.0	0.0	1.9	2.5	0.0	27.4	0.6	0.4	0.0	0.0	0.0	0.0	0.0	1.8	0.0	3.5
4	2.2	4.3	0.7	6.9	7.3	19.6	13.1	3.2	32.2	0.9	1.0	0.0	0.0	1.3	0.0	1.0	12.2	0.0	18.6
5	0.0	0.0	0.4	0.9	0.0	0.0	0.0	0.0	5.6	28.9	1.4	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.5	0.0	6.0	2.0	0.4	21.5	0.8	2.8	0.0	0.0	0.0	0.0	0.0	14.2	-	11.7
7	0.0	0.0	0.0	0.0	0.0	2.5	2.0	0.0	6.5	5.2	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.4
8	0.0	0.0	0.0	0.4	0.0	13.4	12.0	0.0	73.2	3.6	6.3	0.0	0.0	0.0	0.0	0.0	4.9	0.0	12.4
9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	3.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	3.0	3.5	0.5	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	4.3	6.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	13.5	1.7	0.0	0.0	0.0	0.0	0.0	0.1	-	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	1.6	0.0	0.0	0.2	0.0	0.6	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	14.3	10.6	4.8	2.0	5.9	18.1	12.7	7.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.0	2.8	-	0.0
20	3.9	6.3	0.4	5.8	1.0	18.5	22.8	1.2	10.9	0.0	3.5	13.8	0.0	3.1	0.0	0.0	2.9	42.6	11.1
21	19.4	18.1	17.5	7.0	10.6	13.3	2.7	16.9	0.0	0.1	3.6	0.0	11.1	10.9	19.4	28.3	1.2	-	2.5
22	22.9	7.3	33.2	2.6	2.8	0.3	4.1	23.1	0.0	0.0	0.0	6.7	13.6	18.9	29.3	28.0	0.6	8.6	0.0
23	9.2	4.5	5.7	2.0	3.1	5.1	1.2	12.8	0.0	0.0	1.3	10.8	0.0	15.3	28.6	4.1	0.0	9.7	0.0
24	1.5	0.4	2.0	0.3	0.0	0.0	0.0	2.9	0.0	0.0	1.2	0.0	0.0	1.2	0.0	3.7	0.0	8.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	2.3	2.7	0.0	2.0	2.7	9.2	4.7	2.5	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.7	0.0	0.9
27	50.3	34.2	35.9	20.8	37.6	20.9	7.3	48.6	0.0	0.0	0.0	3.4	11.9	17.0	2.1	24.2	1.2	36.0	1.0
28	19.7	39.8	32.8	23.9	34.1	40.9	41.7	28.5	0.0	0.2	13.9	20.1	18.7	31.3	12.5	12.5	14.3	22.9	1.5
29	4.8	7.8	11.9	5.4	10.1	2.9	0.8	0.3	0.9	10.8	0.4	0.0	0.0	0.0	0.8	5.3	0.4	-	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA SEPTEMBER 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 23	N 24	N 28
1	3.5	3.8	6.9	1.5	9.5	10.1	4.7	34.9	11.4	15.0	4.6	2.5	15.1	5.5
2	0.0	0.0	0.4	0.4	12.0	15.3	0.8	46.0	8.0	6.4	0.0	0.0	21.0	2.2
3	0.0	0.0	0.1	0.1	2.4	2.9	0.0	27.5	0.7	0.3	0.0	0.0	2.9	3.9
4	4.5	0.9	7.1	7.4	19.4	15.8	3.0	32.8	1.4	1.0	1.1	0.5	12.8	20.2
5	0.0	0.4	1.0	0.0	0.0	0.0	0.0	6.5	28.7	1.6	0.0	0.0	0.0	0.1
6	0.0	0.0	0.2	0.2	6.0	4.0	0.6	20.7	1.3	2.8	0.0	0.0	15.0	13.2
7	0.0	0.0	0.0	0.1	2.9	2.5	0.0	7.1	5.6	0.0	0.0	0.0	3.0	0.9
8	0.0	0.0	0.3	0.0	13.7	11.7	0.0	76.2	4.3	6.0	0.0	0.0	9.4	15.4
9	0.0	0.0	0.1	0.0	0.0	0.1	0.0	4.2	2.5	0.0	0.0	0.0	0.0	0.2
10	0.0	0.0	0.0	0.0	0.0	2.4	0.0	3.5	4.1	0.5	0.0	0.0	2.5	0.1
11	0.0	0.0	0.0	0.0	0.0	0.7	0.0	5.1	6.6	0.0	0.0	0.0	1.9	0.2
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	1.7	0.0	0.0	0.0	1.0	0.2
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	14.2	1.5	0.0	0.0	0.4	0.1
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.3	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.1	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	11.0	4.9	1.9	6.2	17.0	12.2	7.5	0.0	0.0	0.0	0.0	1.7	3.0	0.0
20	0.0	0.7	5.7	1.3	17.3	22.8	1.3	10.7	0.0	3.5	2.8	0.4	3.5	11.6
21	19.0	16.8	8.0	10.0	13.4	3.3	17.0	0.0	0.2	3.6	9.8	14.6	1.5	3.9
22	7.5	31.2	7.9	4.0	0.3	4.3	23.0	0.0	0.0	0.0	14.5	18.7	1.0	0.1
23	5.0	6.0	2.1	4.0	5.5	1.2	13.3	0.0	0.0	1.5	13.6	5.8	0.0	0.1
24	-	2.5	0.2	0.2	0.0	0.0	3.5	0.0	0.0	1.5	1.3	4.5	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
26	3.0	0.0	1.7	2.6	9.0	5.0	2.5	2.6	0.0	0.0	0.0	0.6	5.3	1.1
27	37.0	35.4	20.8	38.0	20.2	9.4	47.7	0.5	0.0	0.0	16.0	25.8	1.8	3.4
28	40.5	31.5	23.7	33.0	39.8	41.7	29.1	0.2	0.2	13.5	30.9	17.3	17.0	3.9
29	7.5	11.5	5.3	10.4	3.3	1.0	0.3	1.1	10.6	0.5	0.0	4.8	1.0	0.1
30	0.0	0.0	0.0	0.0	0.0	0.2	-	1.5	1.7	0.0	0.0	0.0	0.0	0.1





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LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA SEPTEMBER 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25	N 26
1	7	1	1	1	1	3	7
2	7	1	1	1	5	21	7
3	4	1	1	2	1	-	4
4	7	1	1	1	1	1	2
5	8	1	1	1	1	1	2
6	6	1	1	1	1	1	-
7	8	1	1	3	1	1	2
8	4	1	1	1	1	1	1
9	4	1	1	1	1	1	1
10	3	1	1	1	1	1	4
11	3	1	1	4	1	1	1
12	9	3	1	5	1	1	1
13	20	4	1	6	1	1	1
14	12	1	1	3	1	1	-
15	7	1	5	1	1	1	3
16	2	1	-	1	1	1	4
17	9	1	4	10	1	18	2
18	2	16	1	7	1	16	4
19	7	7	1	12	18	12	-
20	1	1	1	7	20	8	2
21	9	12	1	22	11	7	-
22	6	1	7	8	10	3	-
23	5	1	1	15	11	4	2
24	5	1	12	1	11	50	2
25	2	1	10	1	1	3	2
26	3	1	8	3	5	8	2
27	5	1	7	-	1	3	4
28	1	1	1	1	1	12	2
29	3	5	6	5	1	7	1
30	2	3	5	4	1	23	1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA SEPTEMBER 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	0.6	1.3	0.3	1.1	0.1	0.7
2	0.6	0.0	0.8	0.3	0.1	0.4
3	0.4	0.2	0.8	0.6	0.4	-
4	4.1	2.3	1.6	4.6	4.6	0.3
5	0.5	0.4	2.1	2.4	1.6	0.0
6	3.5	2.3	1.2	3.9	3.8	0.1
7	0.9	0.8	0.3	1.4	0.8	0.2
8	1.1	1.2	1.4	2.1	1.2	0.0
9	0.3	0.2	0.4	0.3	0.1	0.0
10	0.2	0.2	0.5	0.1	0.3	0.1
11	0.2	0.3	0.8	0.4	0.3	0.0
12	0.3	0.3	0.7	0.7	0.7	0.3
13	2.2	2.4	2.0	0.5	1.2	0.0
14	6.1	3.9	0.5	1.9	3.8	0.1
15	4.6	3.1	4.0	6.1	3.0	0.2
16	5.8	4.4	-	4.5	4.7	0.2
17	2.4	2.3	1.9	1.7	1.4	2.1
18	2.7	2.3	3.9	2.5	2.3	3.0
19	3.4	2.8	0.2	3.9	0.1	2.7
20	2.1	1.2	1.9	3.7	2.3	1.0
21	4.3	2.7	0.6	5.0	0.1	0.5
22	0.5	0.4	0.4	1.4	0.8	0.6
23	0.7	0.7	3.8	1.2	0.0	0.3
24	3.5	3.0	1.9	3.5	1.7	0.1
25	2.8	2.3	3.2	4.0	0.3	0.3
26	2.8	2.3	1.0	3.9	1.0	6.9
27	3.4	2.4	0.6	-	0.9	0.2
28	0.7	0.4	0.2	3.1	2.9	0.7
29	0.3	0.4	0.9	2.6	0.1	0.3
30	0.4	0.4	0.5	0.8	0.1	0.8



NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

MONTHLY SUMMARY OF RESULTS - OCTOBER 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGHYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	PA	62 26 N	11 16 E	1539
19	N 26	TREUNGEN	PA	59 01 N	8 31 E	300
20	N 28	FILLEFJELL	P	60 11 N	8 07 E	956

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA OCTOBER 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 28
1	0.2	0.0	0.0	0.6	0.4	0.0	12.0	0.0	14.1	26.7	0.0	0.0	0.0	0.0	0.2	0.0	11.7	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.3	0.6	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
8	1.2	3.7	0.9	8.8	6.4	19.9	6.8	1.1	47.0	0.9	0.0	1.1	0.0	0.0	0.4	0.0	10.8	0.0	4.4
9	14.3	9.7	14.0	10.5	13.5	11.7	32.5	16.2	4.3	0.7	3.6	0.0	9.0	10.9	1.7	20.6	6.0	0.0	3.1
10	0.0	0.0	1.7	0.0	0.0	0.2	1.8	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	6.1	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
12	0.0	0.0	0.0	4.1	0.3	0.2	1.9	0.0	0.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	7.1	0.0	0.0
13	0.0	1.0	0.0	2.6	7.8	0.0	0.8	0.7	5.3	2.9	0.0	0.0	0.0	0.0	0.0	0.8	19.7	0.0	0.0
14	0.0	0.0	0.0	1.1	0.3	0.0	2.2	0.0	4.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	19.3	0.0	2.8
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.9	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0
17	0.0	0.0	3.5	0.0	0.0	0.0	4.1	0.1	0.0	3.0	0.0	0.0	0.0	0.0	14.0	0.0	2.9	9.4	0.0
18	3.8	4.5	0.0	4.4	2.2	3.7	5.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	12.1	0.7	0.0
19	0.0	0.0	20.5	0.9	0.0	0.0	0.0	0.2	0.0	6.6	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0
20	0.0	0.0	0.0	2.4	0.0	0.0	2.4	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.6	2.7	0.0	2.5	1.9	9.7	1.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.7
23	0.0	2.2	0.4	1.0	2.3	3.4	2.4	2.7	7.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	6.4	2.2	0.2
24	1.3	1.1	0.0	6.6	4.2	13.0	21.4	0.3	45.1	13.4	1.9	7.3	0.0	0.0	4.1	1.0	34.7	0.0	9.1
25	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	16.6	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.2
26	0.0	0.0	0.0	0.0	0.0	3.7	0.3	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.0	19.2	5.1	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	1.0	0.6	0.0	14.9	6.6	0.6	1.1	0.0	0.0	0.0	0.0	9.5	0.0	1.3
29	0.0	2.2	0.0	9.7	3.3	21.2	29.0	0.0	23.2	2.0	1.2	0.0	0.0	0.0	0.0	0.0	27.1	0.0	2.8
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA OCTOBER 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 23	N 24	N 28
1	0.0	0.0	0.6	0.9	0.0	12.6	0.1	15.6	26.5	0.0	0.0	0.0	13.3	0.1
2	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.2	5.5	0.0	0.0	0.0	1.1	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	20.5	0.0	0.0	0.0	0.5	0.0
4	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.3	4.4	0.0	0.0	0.0	0.6	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0
6	0.4	0.4	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.9	0.0	0.0	0.0	0.0	0.0	1.0	2.2	0.0	0.0	0.0	0.0	0.1
8	3.5	0.9	8.4	7.0	20.2	7.5	1.0	47.2	3.6	0.0	0.0	0.8	12.0	5.3
9	9.6	13.8	13.1	13.5	13.2	33.0	15.6	5.1	1.3	5.0	9.2	19.2	7.0	3.7
10	0.0	2.1	0.4	0.0	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	7.8	0.0	0.0	0.0	3.5	0.1
12	0.0	0.0	4.5	0.3	0.2	2.3	0.0	0.8	1.7	0.0	0.0	0.0	7.8	0.0
13	0.3	0.0	2.9	7.9	0.0	1.0	0.9	5.5	3.2	0.0	0.0	0.4	20.0	0.0
14	0.0	0.0	1.6	0.4	0.0	2.2	0.0	4.3	0.4	0.0	0.0	0.0	13.5	3.4
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	4.4	0.0	0.0	0.0	5.1	0.0
17	0.0	3.4	0.0	0.0	0.0	3.7	0.1	0.0	3.9	0.0	0.0	0.1	3.0	0.0
18	5.0	0.0	4.7	2.9	3.9	6.0	0.0	0.0	0.9	0.0	0.0	-	13.0	0.0
19	0.0	20.9	1.0	0.0	0.0	0.0	0.1	0.0	10.3	0.0	0.0	11.5	0.0	0.0
20	0.0	0.0	2.3	0.0	0.0	2.3	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.1
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
22	3.0	0.0	1.9	1.9	9.5	1.0	0.3	0.4	0.0	0.0	0.0	0.0	2.2	1.5
23	2.5	0.2	0.9	2.5	3.4	4.0	2.6	9.1	3.3	0.0	0.0	0.0	7.1	0.5
24	1.2	0.0	6.6	5.4	12.6	21.4	0.2	45.9	14.3	1.5	0.0	0.9	45.5	9.2
25	0.0	0.0	0.0	0.0	0.0	4.0	0.0	17.9	26.7	0.0	0.0	0.0	0.6	2.3
26	0.0	0.0	0.0	0.2	3.7	0.6	0.0	0.0	2.8	0.0	0.0	0.0	3.2	0.0
27	0.0	0.0	0.0	0.0	0.6	0.4	0.0	19.5	5.9	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	1.2	0.5	0.0	15.8	10.0	0.2	0.0	0.0	10.0	1.5
29	2.2	0.0	10.7	3.9	20.1	30.0	0.0	24.0	2.8	3.0	0.0	0.0	28.8	3.9
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	-	0.0	0.0	0.0







LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA OCTOBER 73

SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25	N 26
1	3	6	10	8	6	-	3
2	2	1	9	5	1	1	1
3	6	1	6	1	4	3	1
4	9	1	9	1	5	5	1
5	6	3	2	-	5	5	1
6	14	13	1	6	6	4	2
7	9	10	1	10	5	2	3
8	2	10	1	2	3	5	14
9	1	7	1	8	3	6	9
10	1	6	1	6	1	5	7
11	1	6	1	5	10	7	1
12	1	5	1	7	3	4	1
13	2	1	1	8	1	1	1
14	8	1	1	12	7	2	5
15	5	1	1	3	9	5	5
16	7	1	1	16	2	3	1
17	16	1	1	29	21	3	1
18	2	1	1	10	1	3	1
19	1	8	7	15	2	3	1
20	4	1	1	19	1	1	1
21	2	1	1	24	1	1	1
22	4	1	1	22	1	1	1
23	6	1	1	7	2	3	1
24	6	5	1	2	1	2	3
25	3	1	4	3	1	1	5
26	4	1	1	3	1	1	2
27	19	1	29	11	7	2	12
28	4	45	1	6	1	1	1
29	1	25	2	4	4	-	1
30	1	16	1	5	1	2	1
31	1	28	9	4	8	1	1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA OCTOBER 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	0.2	0.1	0.2	0.0	0.0	-
2	0.2	0.1	0.5	1.2	0.2	0.0
3	0.5	0.2	1.0	0.5	0.1	0.6
4	0.8	0.3	0.4	6.0	1.3	0.4
5	1.5	2.1	5.7	-	0.0	0.1
6	3.5	0.2	1.4	5.5	2.4	0.4
7	3.3	3.8	6.9	5.7	0.1	1.8
8	3.2	4.7	0.1	2.6	0.0	0.5
9	0.2	1.0	0.6	0.9	0.0	0.3
10	0.3	0.2	0.0	0.6	0.3	0.2
11	0.2	0.2	0.6	1.0	0.1	0.2
12	0.3	0.1	0.0	0.7	0.2	0.4
13	0.6	0.1	1.6	1.8	0.6	0.1
14	4.9	0.3	2.6	4.8	2.6	0.6
15	3.8	3.3	1.4	3.8	2.3	0.4
16	2.6	2.5	0.2	1.8	1.8	0.5
17	0.7	1.2	0.6	1.9	0.1	0.4
18	0.3	0.2	0.1	0.6	0.0	0.5
19	0.3	0.2	0.3	1.0	0.0	0.5
20	0.2	0.2	0.2	2.0	0.0	0.3
21	0.2	0.1	0.4	0.8	0.0	0.6
22	0.5	1.5	0.3	1.1	0.0	0.5
23	1.4	0.2	1.1	3.9	0.0	0.4
24	1.9	1.7	1.3	3.0	0.2	0.3
25	0.9	0.7	0.3	2.2	1.2	0.3
26	1.5	1.6	1.2	1.6	0.9	0.8
27	11.8	1.8	16.0	18.2	8.8	2.1
28	4.6	13.3	2.9	10.1	7.3	0.4
29	0.1	2.7	1.5	0.9	0.7	-
30	0.2	0.6	1.2	1.0	0.9	0.2
31	0.8	1.0	6.1	0.9	0.5	0.8

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA OCTOBER 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 28
1	0	0	0	0	0	0	4	0	2	15	0	0	0	0	1	0	0	0	0
2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0
3	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	1	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	0
8	6	7	6	34	23	38	16	4	5	1	0	8	0	0	6	0	35	0	8
9	2	3	6	19	16	10	33	2	3	1	14	0	21	17	2	19	4	0	2
10	0	0	1	0	0	1	5	0	0	0	0	5	0	0	0	0	0	0	1
11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
12	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
13	0	0	0	2	12	0	1	1	1	0	0	0	0	0	0	2	8	0	0
14	0	0	0	6	2	0	4	0	1	0	0	0	0	0	0	0	8	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0
17	0	0	12	0	0	0	2	0	0	0	0	0	0	0	37	0	1	14	0
18	1	1	0	1	2	4	0	0	0	0	0	0	0	0	0	0	2	9	0
19	0	0	24	5	0	0	0	0	0	1	0	0	0	0	0	8	0	0	0
20	0	0	0	7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
22	1	2	0	3	3	3	1	1	0	0	0	0	0	0	0	0	1	0	0
23	0	1	3	3	5	3	3	1	5	1	0	0	0	0	0	0	4	1	0
24	2	3	0	28	18	11	33	0	13	3	11	29	0	0	0	3	22	0	1
25	0	0	0	0	0	0	11	0	4	4	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	16	5	0	0	0	0	0	15	0	0	0	0	0	0
27	0	0	0	0	0	8	5	0	44	15	0	0	12	0	0	0	0	0	0
28	0	0	0	0	0	7	8	0	6	0	6	18	0	0	0	0	38	0	4
29	0	2	0	29	4	6	44	0	3	0	0	0	0	0	0	0	6	0	2
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	7	0	0	0	-	0	0	0	0	0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA OCTOBER 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 28
1	0	0	0	3	0	0	-241	0	-70	-53	0	0	0	0	0	0	35	0	0
2	0	0	0	0	0	0	-264	0	0	-10	0	0	0	0	0	0	-1	0	0
3	0	0	0	0	0	0	0	0	0	111	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	-6	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	20	0	0	0	0	0	33	8	0	0	0	0	0	0	0	92	0
8	68	129	50	442	318	497	-75	64	56+	1	0	87	0	0	53	0	689	0	153
9	29	19	-14	-32	94	-23	-32	-32	-108	-2	-142	0	314	-153	17	268	-18	0	6
10	0	0	-10	0	0	0	-114	0	0	0	-219	0	0	0	0	0	0	0	21
11	0	0	0	0	0	0	0	0	-5	24	0	0	0	0	0	0	-19	0	0
12	0	0	0	0	0	0	1325	0	-4	9	0	0	0	0	0	0	35	0	0
13	0	3	0	45	227	0	0	6	32	26	0	0	0	0	0	-7	138	0	0
14	0	0	0	115	18	0	129	0	-62	0	0	0	0	0	0	0	501	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	-3	9	0	0	0	0	0	0	22	0	0
17	0	0	-325	0	0	0	-170	0	0	6	0	0	0	0	-420	0	11	206	0
18	4	36	0	22	27	-22	34	0	0	-5	0	0	0	0	0	0	97	-2	0
19	0	0	-534	0	0	0	0	0	0	7	0	0	0	0	0	150	0	0	0
20	0	0	0	-29	0	0	-10	0	0	-26	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	-415	0	0	0	0	0	0	0	0
22	29	35	0	20	53	58	-37	0	0	0	0	0	0	0	0	0	27	0	3
23	0	13	0	-43	32	21	85	27	0	-3	0	0	0	0	0	0	108	22	89
24	55	50	0	468	265	390	573	0	-542	-147	-313	-44	0	0	0	51	590	0	64
25	0	0	0	0	0	0	-399	0	-50	-52	0	0	0	0	0	0	0	0	7
26	0	0	0	0	0	295	0	0	0	-53	0	0	-55	0	0	0	0	0	0
27	0	0	0	0	0	170	0	0	977	321	0	0	147	0	0	0	0	0	0
28	0	0	0	0	0	33	94	0	-149	-33	0	135	0	0	0	0	1050	0	136
29	0	58	0	329	-3	42	463	0	-255	-16	-68	0	0	0	0	0	-54	0	-3
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	74	0	0	0	-	0	0	0	0	0

NORWEGIAN INSTITUTE FOR AIR RESEARCH

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LRTAP GROUND SAMPLING STATIONS

MONTHLY SUMMARY OF RESULTS - NOVEMBER 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS			LOCATIONS			
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKRFADALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539
19	N 26	TREUNGEN	PA	59 01 N	2 12 E	300
20	N 27	VATNEDALEN	P	59 28 N	7 22 E	800
21	N 28	FILLEFJELL	P	60 11 N	8 07 E	956

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 27	N 28
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.3	0.0	0.0	0.3	5.7	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.3	3.0	1.1	8.7	3.3	-	6.0	1.9	9.0	2.2	0.0	0.0	0.0	0.0	0.3	1.0	1.0	0.6	2.5	2.5
4	10.8	28.1	8.3	9.0	15.0	28.1	32.0	12.4	10.7	9.0	0.2	0.0	3.4	0.0	3.4	8.4	24.9	9.2	9.3	0.2
5	3.9	2.0	6.3	6.7	9.6	24.7	22.1	9.2	12.0	6.3	10.9	7.3	19.8	15.9	5.1	5.9	8.3	11.0	11.9	5.3
6	0.0	0.0	0.0	0.0	0.0	1.1	2.8	0.0	10.1	12.9	-	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0
7	0.0	1.0	0.0	5.1	2.2	15.0	15.6	0.0	17.9	10.8	0.0	3.2	0.0	0.0	0.0	0.0	14.9	0.0	1.8	0.8
8	0.0	1.3	0.0	3.4	3.2	33.6	18.3	0.1	48.6	17.3	0.0	0.0	0.0	0.0	0.8	0.0	18.8	1.6	18.8	19.4
9	0.3	0.8	0.0	0.0	0.7	20.2	7.9	0.3	11.4	8.7	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.7	14.4	4.6
10	0.0	3.1	0.0	1.5	3.6	9.9	13.1	0.0	4.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	1.1	1.3
11	1.3	0.0	0.0	2.9	0.0	5.5	5.4	0.3	1.3	3.2	2.8	0.0	0.0	0.0	0.0	0.0	25.1	0.0	0.8	0.6
12	23.5	28.0	6.1	13.7	25.0	42.3	38.0	15.6	16.3	0.0	2.0	4.9	0.0	6.7	2.4	6.8	17.2	9.8	28.3	3.5
13	0.0	0.0	1.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.9	0.0	1.0	0.0	0.0	0.0
14	1.0	3.7	2.4	3.3	7.4	17.4	11.0	1.6	0.0	3.6	0.0	0.0	0.7	0.0	0.6	2.2	17.8	0.9	0.0	0.0
15	7.4	6.6	12.1	13.2	2.4	0.0	2.9	6.4	0.0	0.3	0.0	7.6	0.0	13.7	5.3	3.9	5.2	10.2	3.6	0.3
16	0.0	1.4	0.0	5.3	0.5	9.7	6.8	2.6	0.0	3.2	0.0	0.0	0.0	0.0	2.5	0.0	18.3	0.0	2.5	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0
18	21.3	40.6	6.8	30.9	43.0	56.2	66.4	12.4	20.3	0.0	5.6	15.3	0.0	5.8	13.1	6.7	42.8	8.3	43.9	2.0
19	3.1	5.6	0.0	0.0	1.1	8.0	4.1	2.0	5.0	0.3	0.4	0.0	0.0	0.0	2.2	0.0	3.2	0.0	1.7	0.0
20	0.0	0.0	0.0	0.0	0.2	2.2	5.4	0.0	7.7	2.5	0.5	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.4	6.9	12.4	0.0	44.9	12.4	0.0	0.0	0.0	0.0	0.0	0.0	30.2	0.0	2.8	7.4
22	1.7	13.6	0.0	3.9	7.4	73.4	44.8	7.2	34.6	2.9	0.8	0.0	0.0	5.2	0.0	0.0	27.1	2.3	31.3	9.9
23	7.8	8.0	7.4	12.1	14.5	10.5	12.1	6.7	2.8	5.3	0.0	0.0	0.0	1.7	5.4	18.7	5.3	8.0	4.8	0.0
24	4.0	2.5	8.9	2.7	0.7	8.7	10.8	7.2	1.8	1.3	0.0	1.7	0.0	3.6	0.0	0.0	8.3	5.2	2.2	0.2
25	0.0	0.3	0.0	9.5	6.4	2.5	3.6	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
26	0.0	0.0	0.0	1.3	0.0	0.0	8.3	0.0	4.3	0.0	0.0	0.0	0.0	0.6	0.0	0.0	5.1	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.1
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 20	N 23	N 24	N 28
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0	0.0
2	0.1	0.0	0.0	0.2	5.5	0.0	0.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0
3	2.5	0.6	9.5	3.6	-	6.0	1.9	9.0	2.5	0.0	0.0	1.0	1.5	2.5
4	27.2	7.8	9.5	12.0	27.1	32.0	11.5	12.3	9.0	0.1	0.0	6.4	28.8	0.1
5	2.0	6.9	8.9	9.5	23.6	22.1	9.5	12.4	6.3	9.0	15.7	7.6	11.3	5.4
6	0.0	0.0	0.0	0.0	1.0	2.2	0.0	11.3	16.9	10.0	0.0	0.0	5.0	0.1
7	0.6	0.0	7.7	2.6	14.2	16.4	0.0	19.0	12.2	0.0	0.0	0.0	15.0	1.5
8	1.0	0.0	4.0	3.9	31.1	19.5	0.1	48.6	25.3	0.0	0.0	0.0	19.8	22.3
9	0.3	0.0	0.4	0.9	18.9	8.1	0.2	10.8	12.3	0.0	0.0	0.0	9.0	7.3
10	0.0	0.0	2.2	4.0	9.5	14.1	0.0	3.7	4.6	0.0	0.0	0.0	11.6	1.6
11	0.0	0.0	5.0	0.2	5.2	5.2	0.1	1.7	4.0	2.5	0.0	0.0	27.9	0.9
12	30.0	6.1	16.6	26.5	39.5	38.0	15.0	16.7	0.0	2.6	6.3	7.9	15.5	5.3
13	0.0	1.5	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.6	0.8	1.0	0.0	0.1
14	3.8	2.5	4.5	8.0	14.8	11.0	1.6	0.0	5.8	0.0	0.0	2.5	19.0	0.1
15	7.0	11.9	13.8	2.8	0.0	4.4	6.3	0.0	0.3	0.0	11.3	4.1	5.1	1.0
16	1.3	0.0	5.7	1.0	9.0	6.5	2.5	0.0	3.5	0.0	0.0	0.0	11.1	0.0
17	0.0	0.0	0.0	0.0	0.0	2.6	0.0	1.4	0.1	0.0	0.0	0.0	5.1	0.0
18	40.0	6.7	27.7	44.0	52.9	66.4	12.0	21.5	0.1	6.8	5.5	6.6	44.3	5.6
19	6.0	0.0	5.5	3.0	7.5	4.6	2.0	5.4	0.3	0.4	0.0	0.3	5.4	0.1
20	0.0	0.0	0.0	0.3	2.0	5.1	0.0	8.0	4.6	0.4	0.0	0.0	5.5	0.1
21	0.0	0.0	0.0	0.8	7.4	13.7	0.0	44.1	14.7	0.0	0.0	0.0	31.0	8.2
22	12.8	0.0	6.6	8.9	68.2	49.4	7.3	35.0	9.4	0.8	5.2	0.0	29.0	12.4
23	7.7	7.1	10.0	14.4	10.5	16.0	6.5	3.3	7.8	0.0	1.4	3.6	5.8	0.8
24	2.6	8.3	2.3	1.6	7.8	9.6	6.7	2.1	1.4	0.0	2.0	8.2	13.0	0.2
25	0.5	0.0	7.4	5.5	2.5	4.5	0.0	4.0	0.0	0.0	0.0	0.0	0.5	0.0
26	0.0	0.3	1.2	0.0	0.0	7.7	0.0	4.9	0.0	0.0	0.8	0.0	5.5	0.2
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8	0.2	0.0	0.0	0.0	0.0	0.1
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	9.3	0.2
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	-	-	-	-	0.03	-	-	-	-	-	-
2	-	1.00	-	-	-	0.07	-	-	-	0.01	-	-	-	-	-	-
3	0.91	0.20	0.28	0.28	0.31	-	0.34	0.18	0.02	0.06	-	-	-	-	9.12	7.00
4	0.13	0.11	0.16	0.49	0.23	0.02	0.04	0.05	0.02	0.01	0.24	-	0.21	-	1.02	0.89
5	0.26	0.19	0.27	1.86	0.60	0.04	0.16	0.16	0.01	0.01	0.12	0.09	0.04	0.02	0.62	9.00
6	-	-	-	-	-	0.98	4.70	-	0.30	0.04	0.18	-	-	-	-	-
7	-	0.27	-	1.52	0.80	0.25	0.32	-	0.17	0.01	-	0.06	-	-	-	-
8	-	0.68	-	2.70	0.45	0.15	0.22	-	0.17	0.26	-	-	-	-	2.60	-
9	-	1.72	-	-	3.10	0.91	1.47	0.22	0.88	0.44	-	-	-	-	-	-
10	-	0.16	-	4.40	0.54	0.45	0.40	-	0.26	0.16	-	-	-	-	-	-
11	0.45	-	-	1.30	-	0.09	0.52	0.33	0.22	0.05	0.06	-	-	-	-	-
12	-	0.33	0.08	7.90	1.38	0.69	2.80	0.11	0.45	-	0.10	0.03	-	0.01	3.20	12.60
13	-	-	0.14	-	-	-	-	-	-	-	0.74	-	-	0.06	-	12.20
14	0.71	0.19	0.15	3.00	0.27	0.09	1.40	0.35	-	0.19	-	-	0.31	-	3.00	2.70
15	0.08	0.16	0.18	0.48	0.27	-	0.60	0.15	-	-	-	0.08	-	0.02	1.12	3.20
16	-	0.26	-	3.10	0.65	0.66	1.20	0.09	-	0.08	-	-	-	-	1.12	-
17	-	-	-	-	-	-	0.87	-	0.25	-	-	-	0.35	-	-	-
18	0.07	-	0.06	2.00	0.65	0.09	0.88	0.02	0.18	-	0.05	0.08	-	0.01	1.10	4.00
19	0.34	0.70	-	-	8.40	0.44	4.60	0.12	1.13	0.12	0.24	-	-	-	0.74	-
20	-	-	-	-	-	0.44	0.35	-	0.07	0.02	-	-	-	-	-	-
21	-	-	-	-	1.40	0.04	0.29	-	0.02	0.08	-	-	-	-	-	-
22	0.07	0.09	-	4.60	0.60	0.09	0.37	0.03	0.02	0.24	-	0.07	-	0.01	-	-
23	0.02	0.02	0.06	0.86	0.10	0.04	0.43	0.15	0.30	0.08	-	-	-	0.01	0.41	1.17
24	0.04	0.04	0.01	2.75	0.96	0.08	0.41	0.05	0.06	0.06	-	0.05	-	0.01	-	-
25	-	0.17	-	1.70	0.27	0.08	0.48	-	0.05	-	-	-	-	-	-	-
26	-	-	-	0.40	-	-	0.16	-	0.13	-	-	-	-	0.07	-	-
27	-	-	-	-	-	-	-	-	0.05	0.60	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 24	N 25	N 26	N 27	N 28
1	-	-	-	-	-
2	-	-	-	-	-
3	0.26	0.22	0.20	0.06	0.02
4	0.04	0.09	0.06	0.01	0.07
5	0.23	0.05	0.13	0.01	0.01
6	1.30	0.58	-	-	-
7	0.51	0.17	-	0.10	0.05
8	0.40	0.12	0.14	0.10	0.09
9	1.74	0.28	0.38	0.33	0.06
10	0.31	0.18	-	0.10	0.02
11	0.31	0.24	-	-	0.03
12	1.14	0.04	0.07	0.15	0.04
13	-	0.24	-	-	-
14	0.12	-	0.23	-	-
15	0.09	0.18	0.07	0.02	0.02
16	0.80	0.45	-	0.08	-
17	0.72	-	-	-	-
18	0.48	0.06	0.02	0.03	0.03
19	0.84	0.75	-	0.08	-
20	0.38	0.21	-	-	-
21	0.14	0.03	-	0.10	0.01
22	0.32	-	0.06	0.01	0.01
23	0.36	-	0.01	0.02	-
24	0.85	-	0.01	0.02	0.06
25	0.88	0.46	-	-	-
26	0.37	1.12	-	-	-
27	-	0.29	-	-	-
28	0.38	0.09	-	-	-
29	-	0.08	-	-	-
30	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

-44-a

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	-	-	-	-	1.4	-	-	-	-	-	-
2	-	0.3	-	-	-	8.1	-	-	-	1.0	-	-	-	-	-	-
3	25.1	12.3	9.3	9.9	14.2	-	13.2	17.0	4.8	3.3	-	-	-	-	26.9	19.0
4	6.0	4.0	6.0	7.2	7.5	2.7	2.9	4.5	2.4	0.9	3.7	-	13.4	-	7.2	6.7
5	2.0	0.5	3.3	1.8	1.4	1.4	1.5	3.0	0.3	1.0	3.6	5.8	3.5	3.3	3.2	0.0
6	-	-	-	-	-	0.7	3.4	-	0.1	0.5	0.8	-	-	-	-	-
7	-	1.2	-	0.9	1.2	0.2	1.0	-	0.0	0.1	-	2.6	-	-	-	-
8	-	0.4	-	1.9	0.9	0.4	0.5	-	0.1	0.0	-	-	-	-	11.4	-
9	-	1.4	-	-	2.5	0.2	0.5	0.7	0.1	0.0	-	-	-	-	-	-
10	-	0.7	-	3.4	1.0	0.3	0.2	-	1.1	0.0	-	-	-	-	-	-
11	0.6	-	-	1.6	-	0.1	0.1	2.5	0.3	0.0	0.6	-	-	-	-	-
12	-	0.5	0.4	2.7	0.6	0.4	1.7	0.2	0.6	-	0.2	0.4	-	0.4	9.1	2.5
13	-	-	0.6	-	-	13.5	-	-	-	-	1.2	-	-	1.5	-	4.9
14	1.4	0.7	0.6	2.7	0.8	0.6	1.4	0.8	-	0.4	-	-	3.4	-	12.2	2.9
15	0.6	0.1	0.7	0.5	0.6	-	0.7	0.3	-	-	-	1.5	-	0.6	2.8	2.3
16	-	0.1	-	1.3	0.7	0.3	0.9	0.1	-	0.3	-	-	-	-	2.6	-
17	-	-	-	-	-	-	2.1	-	0.7	-	-	-	1.2	-	-	-
18	1.2	-	0.9	3.0	2.2	1.0	2.1	0.4	0.5	-	0.8	1.6	-	1.1	2.7	3.5
19	0.3	0.0	-	-	4.7	0.1	1.8	0.0	0.9	1.1	0.7	-	-	-	2.2	-
20	-	-	-	-	-	0.1	0.8	-	0.2	0.1	-	-	-	-	-	-
21	-	-	-	-	8.8	0.4	1.6	-	0.3	0.3	-	-	-	-	-	-
22	1.2	0.9	-	2.6	3.1	0.1	1.8	0.2	0.3	0.0	-	1.7	-	0.1	-	-
23	0.4	0.3	0.2	0.9	0.4	0.1	0.4	0.0	0.4	0.0	-	-	-	0.1	1.1	0.4
24	0.4	1.3	0.3	0.7	0.2	0.0	0.2	0.3	0.3	0.0	-	0.6	-	1.3	-	-
25	-	0.8	-	0.2	0.0	0.0	0.0	-	0.2	-	-	-	-	-	-	-
26	-	-	-	0.1	-	-	0.3	-	0.3	-	-	-	-	1.6	-	-
27	-	-	-	-	-	-	-	-	0.3	1.3	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 24	N 25	N 26	N 27	N 28
1	-	-	-	-	-
2	-	-	-	-	-
3	10.3	12.3	7.4	5.0	2.8
4	2.0	13.6	5.4	2.2	6.6
5	1.5	2.9	3.3	0.7	0.9
6	0.7	1.0	-	-	-
7	0.1	1.4	-	0.1	0.6
8	0.5	0.9	0.5	0.1	0.1
9	0.4	1.5	0.6	0.0	0.2
10	0.3	1.3	-	0.1	0.1
11	0.7	-	-	-	0.2
12	0.5	2.2	0.2	0.0	0.1
13	-	1.4	-	-	-
14	0.3	-	0.7	-	-
15	0.3	1.7	0.2	0.3	0.4
16	0.3	0.9	-	0.1	-
17	0.4	-	-	-	-
18	0.5	4.8	0.4	0.2	0.1
19	1.1	3.4	-	0.3	-
20	0.7	1.1	-	-	-
21	0.8	0.4	-	0.2	0.4
22	0.7	-	0.3	0.1	0.4
23	0.4	-	0.1	0.3	-
24	0.0	-	0.3	0.3	0.6
25	0.0	2.5	-	-	-
26	0.4	3.5	-	-	-
27	-	3.1	-	-	-
28	0.4	3.1	-	-	-
29	-	3.4	-	-	-
30	-	-	-	-	-



LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

PH IN PRECIPITATION

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	-	-	-	-	4.90	-	-	-	-	-	-
2	-	-	-	-	-	3.70	-	-	-	4.75	-	-	-	-	-	-
3	3.35	3.55	3.80	3.65	3.50	-	3.60	3.45	4.25	4.25	-	-	-	-	-	3.55
4	4.10	4.20	4.25	4.00	4.10	4.35	4.35	4.15	4.55	4.60	-	-	3.80	-	4.05	4.15
5	4.35	5.70	4.40	4.70	4.90	4.60	4.90	4.30	5.25	4.55	4.50	4.20	4.15	4.35	4.50	4.55
6	-	-	-	-	-	5.55	5.15	-	5.80	4.90	-	-	-	-	-	-
7	-	4.65	-	4.70	5.00	4.95	5.00	-	5.70	5.55	-	5.30	-	-	-	-
8	-	5.25	-	4.85	5.15	5.20	5.10	-	5.55	5.55	-	-	-	-	6.65	-
9	-	4.90	-	-	5.90	5.30	5.40	-	6.10	5.50	-	-	-	-	-	-
10	-	5.80	-	6.05	5.40	5.40	5.00	-	6.90	5.60	-	-	-	-	-	-
11	5.00	-	-	5.05	-	5.55	5.50	-	6.75	5.65	5.60	-	-	-	-	-
12	-	5.40	5.45	5.55	5.20	5.50	5.60	5.55	6.05	-	5.80	5.50	-	5.15	5.05	6.10
13	-	-	5.90	-	-	-	-	-	-	-	6.75	-	-	5.05	-	5.50
14	4.70	5.05	5.25	5.15	5.00	5.00	5.25	5.85	-	5.45	-	-	-	-	6.50	4.65
15	5.35	5.10	4.70	5.55	5.80	-	6.10	5.70	-	-	-	4.50	-	4.65	4.55	4.90
16	-	5.60	-	6.00	6.15	5.80	5.45	5.70	-	5.70	-	-	-	-	4.70	-
17	-	-	-	-	-	-	4.60	-	6.75	-	-	-	4.30	-	-	-
18	4.55	-	5.20	4.25	4.35	5.00	4.55	4.85	6.20	-	4.65	4.50	-	5.00	4.55	4.70
19	4.95	5.50	-	-	6.30	5.80	6.10	5.60	6.45	-	-	-	-	-	5.15	-
20	-	-	-	-	-	5.80	5.05	-	6.00	5.35	-	-	-	-	-	-
21	-	-	-	-	3.90	4.95	4.90	-	6.20	5.35	-	-	-	-	-	-
22	4.65	4.75	-	4.30	4.25	5.20	4.75	5.30	5.95	5.35	-	4.90	-	5.30	-	-
23	5.20	5.10	5.50	4.85	5.10	5.05	5.30	6.45	6.35	5.40	-	-	-	4.85	5.50	5.10
24	5.35	5.35	5.45	5.60	-	5.35	5.30	5.35	7.15	5.75	-	5.70	-	5.20	-	-
25	-	6.15	-	5.55	5.60	5.80	5.65	-	6.75	-	-	-	-	-	-	-
26	-	-	-	5.90	-	-	5.35	-	6.60	-	-	-	-	5.40	-	-
27	-	-	-	-	-	-	-	-	6.45	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	6.80	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	5.75	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

PH IN PRECIPITATION

DATE	N 24	N 25	N 26	N 27	N 28
1	-	-	-	-	-
2	-	-	-	-	-
3	3.80	5.50	3.85	4.35	4.25
4	4.35	3.90	4.05	4.50	4.10
5	4.55	4.40	4.20	4.70	4.65
6	5.05	5.15	-	-	-
7	5.05	6.00	-	5.65	5.00
8	4.90	-	5.00	5.30	5.40
9	5.60	5.85	4.80	5.30	5.60
10	5.30	6.70	-	5.95	5.40
11	5.30	-	-	-	4.85
12	5.50	4.55	5.35	5.40	5.15
13	-	5.00	-	-	-
14	5.15	-	5.35	-	-
15	5.40	4.55	4.90	5.35	4.45
16	5.50	6.40	-	5.50	-
17	5.25	-	-	-	-
18	4.60	4.00	4.70	5.45	5.10
19	5.85	4.35	-	5.80	-
20	4.95	5.95	-	-	-
21	4.85	5.20	-	5.50	5.40
22	5.05	-	4.95	5.35	5.30
23	5.25	-	5.20	5.40	-
24	5.20	-	5.35	5.60	5.40
25	5.10	6.45	-	-	-
26	5.20	6.80	-	-	-
27	-	4.40	-	-	-
28	5.15	4.35	-	-	-
29	-	4.25	-	-	-
30	-	-	-	-	-

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LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-
2	-	-	-	-	-	200	-	-	-	18	-	-	-	-	-	-
3	600	348	160	225	315	-	304	355	56	56	-	-	-	-	-	630
4	94	71	56	100	80	45	54	71	35	32	-	-	137	-	104	98
5	56	-2	40	19	14	28	14	50	1	34	34	63	91	45	34	35
6	-	-	-	-	-	-	6	-	-3	15	-	-	-	-	-	-
7	-	22	-	22	8	7	8	-	-1	-8	-	4	-	-	-	-
8	-	12	-	16	5	3	8	-	0	-6	-	-	-	-	-	-
9	-	13	-	-	-4	-1	0	-	-46	-3	-	-	-	-	-	-
10	-	-8	-	-12	6	0	11	-	-439	-6	-	-	-	-	-	-
11	5	-	-	7	-	-1	-	-	-236	-8	-5	-	-	-	-	-
12	-	-2	-2	-3	7	-1	-3	-5	-65	-	-8	1	-	4	8	-54
13	-	-	-18	-	-	-	-	-	-	-	-	-	-	9	-	16
14	22	12	-8	-3	6	10	0	-20	-	2	-	-	-	-	-244	22
15	6	-4	18	-2	-2	-	-28	-73	-	-	-	34	-	25	24	10
16	-	10	-	-16	-	-8	0	-22	-	-8	-	-	-	-	24	-
17	-	-	-	-	-	-	27	-	-262	-	-	-	11	-	-	-
18	35	-	-3	56	45	9	27	14	-93	-	23	25	-	7	22	19
19	2	1	-	-	-48	-9	-21	-8	-122	-	-	-	-	-	6	-
20	-	-	-	-	-	-9	11	-	-42	1	-	-	-	-	-	-
21	-	-	-	-	125	6	16	-	-30	7	-	-	-	-	-	-
22	27	15	-	50	56	4	21	1	-21	-8	-	6	-	2	-	-
23	5	7	-8	12	8	-1	4	-187	-186	1	-	-	-	10	-16	5
24	2	-3	-2	-5	-	2	-1	-3	-312	-	-	-6	-	-3	-	-
25	-	-	-	-1	-6	-10	1	-	-192	-	-	-	-	-	-	-
26	-	-	-	-2	-	-	-	-7	-	-162	-	-	-	2	-	-
27	-	-	-	-	-	-	-	-	-88	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 24	N 25	N 26	N 27	N 28
1	-	-	-	-	-
2	-	-	-	-	-
3	204	-	190	45	67
4	52	168	110	34	80
5	21	18	78	23	19
6	8	-16	-	-	-
7	3	-	-	-2	11
8	12	-	7	2	9
9	2	-32	8	-7	-2
10	-1	-52	-	-	-11
11	3	-	-	-	12
12	4	28	5	-1	0
13	-	10	-	-	-
14	8	-	3	-	-
15	4	28	8	0	35
16	3	-	-	-4	-
17	6	-	-	-	-
18	10	100	16	-3	3
19	-22	44	-	0	-
20	5	-45	-	-	-
21	19	0	-	-5	1
22	9	-	14	0	0
23	-2	-	4	2	-
24	5	-	4	-2	-
25	8	-100	-	-	-
26	4	-	-	-	-
27	-	40	-	-	-
28	4	45	-	-	-
29	-	56	-	-	-
30	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

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SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25	N 26
1	1	34	6	17	8	1	1
2	7	23	13	18	20	1	1
3	6	7	3	11	13	2	1
4	24	14	9	51	38	15	1
5	2	3	1	5	4	16	1
6	1	3	1	1	3	1	1
7	1	1	1	2	1	1	1
8	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1
10	2	-	1	7	1	1	1
11	1	-	1	9	1	1	1
12	1	-	1	3	1	3	1
13	1	-	1	3	1	4	1
14	1	-	1	5	1	1	1
15	1	-	1	4	5	2	1
16	1	-	1	7	1	1	1
17	3	-	1	6	1	1	1
18	3	-	1	3	1	1	3
19	1	-	1	2	1	2	1
20	1	-	1	1	1	1	1
21	1	-	1	5	7	7	1
22	1	-	1	6	1	1	1
23	3	-	1	11	1	1	1
24	1	4	2	3	1	1	1
25	1	2	1	8	1	4	-
26	1	1	1	2	1	1	-
27	1	1	2	4	1	1	2
28	1	1	1	19	3	1	2
29	1	3	1	1	6	1	2
30	1	4	1	1	4	1	1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25
1	1.4	1.7	3.6	2.6	1.8	0.8
2	4.4	4.8	5.6	7.6	5.7	3.1
3	9.1	6.1	1.7	15.3	9.3	2.8
4	21.5	6.1	6.8	51.7	11.8	1.6
5	2.0	0.6	0.9	6.5	4.0	0.4
6	0.3	0.6	0.4	0.8	0.1	0.2
7	0.9	0.7	0.5	1.4	1.4	0.2
8	2.1	1.5	1.7	4.2	2.7	0.2
9	0.9	0.6	1.5	0.9	1.6	0.1
10	0.7	-	1.5	2.6	1.3	0.3
11	0.4	-	0.9	2.4	1.7	0.3
12	0.5	-	0.2	2.2	1.6	0.4
13	0.4	-	0.3	1.3	1.2	0.6
14	0.4	-	0.3	1.3	1.0	0.2
15	0.7	-	0.7	2.7	2.1	0.4
16	0.8	-	1.0	1.7	1.3	0.2
17	0.3	-	0.3	0.1	0.7	0.1
18	0.8	-	0.1	3.9	1.9	0.4
19	0.3	-	1.4	0.8	1.1	0.5
20	0.5	-	0.8	0.9	0.8	0.1
21	2.0	-	2.0	3.8	1.8	0.1
22	1.6	-	1.0	4.3	3.1	0.1
23	0.4	-	0.6	1.3	1.8	0.2
24	0.4	0.5	1.2	0.8	1.6	0.3
25	0.3	0.5	0.5	0.5	0.5	0.5
26	0.4	0.5	0.7	1.2	0.9	0.3
27	0.5	0.2	0.9	0.8	0.7	0.8
28	0.4	0.6	0.4	3.1	0.8	0.4
29	0.4	0.4	0.6	1.0	0.5	0.6
30	0.5	0.6	0.1	1.8	1.2	1.1



LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	0	0	0	0	0	0	0	0	0	105	0	0	0	0	0	0
2	0	0	0	0	0	1146	0	0	0	234	0	0	0	0	0	0
3	802	1041	178	1948	1043	-	1819	678	506	125	0	0	0	0	0	602
4	1017	1998	463	898	1197	1263	1727	877	374	287	0	0	543	0	358	824
5	221	-4	252	127	135	692	309	458	12	214	369	461	1709	716	173	205
6	0	0	0	0	0	0	17	0	-30	193	-	0	0	0	0	0
7	0	21	0	112	18	105	125	0	-18	-87	0	13	0	0	0	0
8	0	16	0	54	16	101	146	0	0	-104	0	0	0	0	0	0
9	0	10	0	0	-3	-20	0	0	-524	-26	0	0	0	0	0	0
10	0	-25	0	-18	22	0	144	0	-1789	-20	0	0	0	0	0	0
11	6	0	0	20	0	-5	0	0	-316	-25	-14	0	0	0	0	0
12	0	-56	-12	-41	175	-42	-114	-78	-1059	0	-16	5	0	27	19	-368
13	0	0	-23	0	0	0	0	0	0	0	0	0	0	8	0	15
14	22	44	-19	-10	44	174	0	-32	0	7	0	0	0	0	-155	49
15	45	-26	218	-26	-5	0	-80	-465	0	0	0	258	0	342	126	39
16	0	14	0	-84	0	-77	0	-57	0	-26	0	0	0	0	61	0
17	0	0	0	0	0	0	125	0	-350	0	0	0	39	0	0	0
18	746	0	-20	1729	1934	506	1792	174	-1889	0	129	382	0	41	287	128
19	6	6	0	0	-55	-72	-86	-16	-606	0	0	0	0	0	13	0
20	0	0	0	0	0	-20	60	0	-324	2	0	0	0	0	0	0
21	0	0	0	0	56	42	199	0	-1346	87	0	0	0	0	0	0
22	46	204	0	194	417	294	940	7	-726	-23	0	0	0	12	0	0
23	39	56	-60	145	116	-11	48	-1250	-521	5	0	0	0	17	-87	94
24	8	-8	-18	-14	0	17	-11	-21	-576	0	0	-10	0	-11	0	0
25	0	0	0	-10	-38	-25	4	0	-770	0	0	0	0	0	0	0
26	0	0	0	-3	0	0	-58	0	-701	0	0	0	0	1	0	0
27	0	0	0	0	0	0	0	0	-420	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA NOVEMBER 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 24	N 26	N 27	N 28
1	0	0	0	0
2	0	0	0	0
3	195	121	115	166
4	1296	1012	315	18
5	174	862	274	101
6	30	0	0	0
7	45	0	-4	9
8	225	11	38	175
9	13	6	-101	-9
10	-9	0	0	-15
11	75	0	0	8
12	69	49	-28	0
13	0	0	0	0
14	143	3	0	0
15	21	82	0	11
16	55	0	-10	0
17	14	0	0	0
18	428	133	-132	6
19	-70	0	0	0
20	18	0	0	0
21	575	0	-14	7
22	244	32	0	0
23	-11	32	10	0
24	41	21	-4	0
25	3	0	0	0
26	20	0	0	0
27	0	0	0	0
28	34	0	0	0
29	0	0	0	0
30	0	0	0	0

NORWEGIAN INSTITUTE FOR AIR RESEARCH

LRTAP GROUND SAMPLING STATIONS

MONTHLY SUMMARY OF RESULTS - DECEMBER 1973

THE FOLLOWING STATIONS HAVE REPORTED RESULTS:

LIST OF STATIONS				LOCATIONS		
NR	CODE	NAME	FUNCTION	LAT.	LONG.	ALT.
1	N 01	BIRKENES	PA	58 23 N	8 15 E	190
2	N 03	FINSLAND	PA	58 19 N	7 35 E	275
3	N 05	GJERSTAD	P	58 53 N	8 57 E	240
4	N 06	LISTA	P	58 08 N	8 34 E	13
5	N 07	MANDAL	P	58 03 N	7 27 E	138
6	N 08	SKREDALEN	P	58 49 N	6 43 E	475
7	N 09	SØYLAND	PA	58 41 N	5 59 E	263
8	N 10	TOVDAL	P	58 48 N	8 14 E	227
9	N 14	SKEI I JØLSTER	P	61 34 N	6 29 E	205
10	N 15	TUSTERVATN	P	65 50 N	13 55 E	439
11	N 16	TAGMYRA	P	61 25 N	12 04 E	536
12	N 18	LØKEN	P	59 48 N	11 27 E	150
13	N 19	BISLINGEN	P	60 14 N	10 37 E	680
14	N 20	GRIMELID	P	60 08 N	9 36 E	367
15	N 22	VASSER	PA	59 04 N	10 26 E	35
16	N 23	LYNGØR	PA	58 38 N	9 08 E	20
17	N 24	FITJAR	P	59 55 N	5 19 E	20
18	N 25	HUMMELFJELL	A	62 26 N	11 16 E	1539
19	N 26	TREUNGEN	PA	59 01 N	2 12 E	300
20	N 27	VATNEALEN	P	59 28 N	7 22 E	800
21	N 28	FILLEFJELL	P	60 11 N	8 07 E	956

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

AMOUNT OF PRECIPITATION (MM) IN NILU COLLECTORS

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 27	N 28
1	0.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	8.2	0.6	1.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.4	0.5
2	4.4	2.6	2.1	4.1	6.1	7.8	25.1	2.1	25.1	9.8	5.7	2.7	0.0	1.6	0.0	9.0	21.3	1.4	1.8	1.4
3	0.3	3.1	0.0	4.4	3.9	36.9	23.5	0.8	22.2	6.9	0.4	0.0	0.0	0.0	1.3	0.0	9.0	0.0	13.5	0.3
4	0.0	0.0	0.0	0.0	0.0	3.4	4.1	0.0	11.3	2.8	2.5	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.8	0.0
5	8.3	19.1	6.9	23.1	29.3	34.6	27.3	9.2	3.6	6.5	2.9	8.9	5.7	3.7	11.8	3.8	24.2	8.6	16.2	1.6
6	0.0	5.0	0.7	3.5	4.6	1.6	3.8	0.0	6.4	0.0	5.1	12.5	0.0	5.3	0.0	0.0	2.6	0.0	0.0	2.1
7	0.6	1.9	2.5	0.1	0.5	1.8	1.5	1.3	3.5	0.0	4.5	3.2	13.4	2.2	2.5	2.0	2.2	1.6	0.9	0.9
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0
9	0.0	2.2	0.0	0.1	2.3	19.7	25.4	0.0	31.9	13.9	0.6	0.0	3.0	0.0	0.0	0.0	31.2	0.0	2.5	2.2
10	5.5	18.8	0.0	3.6	10.2	35.3	41.3	0.0	34.6	20.7	0.0	0.0	0.0	0.0	0.0	0.0	24.2	0.0	14.0	3.5
11	0.5	9.9	0.0	1.3	4.5	12.4	13.7	0.4	15.5	5.6	0.9	0.0	0.0	0.0	0.0	0.0	2.9	0.0	13.1	0.4
12	17.0	17.0	14.1	11.9	12.6	21.9	33.6	0.7	0.3	5.5	1.9	3.2	0.0	5.2	5.3	3.7	11.1	12.8	7.3	0.2
13	0.0	2.9	1.1	0.8	2.1	8.7	10.2	8.6	6.3	5.2	4.6	5.7	0.0	4.8	0.0	0.0	3.0	0.0	1.3	0.6
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	7.4	5.7	4.4	3.9	5.7	5.9	1.1	3.9	3.0	1.7	1.8	0.0	0.0	0.0	2.1	4.0	11.8	5.1	2.8	0.6
16	2.6	4.3	7.4	6.2	3.2	16.2	11.5	2.4	0.0	1.0	9.6	4.8	5.3	2.8	0.6	1.8	8.6	-	5.0	0.1
17	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	2.8	0.0	0.0	4.5	3.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
18	0.2	7.6	0.0	1.7	0.3	17.8	4.1	2.9	5.7	1.4	0.0	0.0	3.0	0.0	2.0	0.0	6.0	0.0	4.1	0.6
19	7.6	5.5	4.6	0.7	0.9	17.2	20.2	3.9	0.0	0.6	1.2	0.0	0.0	0.0	0.3	4.6	-	6.0	12.0	0.6
20	8.0	13.6	13.4	3.2	16.7	9.9	4.4	12.4	0.0	0.0	3.6	8.9	3.0	3.0	0.0	4.1	4.0	13.0	6.3	1.2
21	8.6	3.5	3.6	0.0	0.4	2.8	1.1	1.8	0.7	3.6	4.6	4.8	3.0	1.8	1.8	0.0	3.4	0.0	4.5	0.2
22	5.6	3.2	1.3	1.9	3.0	0.0	1.0	1.6	0.0	0.4	0.0	0.0	5.5	0.0	0.0	0.0	0.0	4.1	0.0	0.2
23	1.0	1.9	1.4	0.0	1.0	8.1	0.8	2.4	9.9	0.0	1.1	0.0	3.0	0.0	0.0	1.1	5.1	0.0	4.6	0.9
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0
25	0.0	1.4	0.8	1.5	1.0	3.9	3.7	1.1	12.4	9.1	1.1	0.0	0.0	0.0	0.0	0.4	12.7	0.0	0.0	0.4
26	0.3	0.0	0.0	0.6	0.0	3.5	6.4	0.0	22.7	13.1	0.0	0.0	0.0	3.0	0.0	0.0	8.1	0.0	0.0	0.3
27	0.2	0.9	0.0	0.0	0.0	13.8	2.2	0.0	7.4	15.0	0.0	0.0	3.0	0.0	0.0	0.0	1.7	0.0	7.2	3.2
28	0.4	1.8	0.0	0.9	7.1	1.7	1.7	0.2	18.8	18.9	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	2.9	0.0
29	5.1	14.3	0.3	2.5	10.2	31.9	25.6	3.9	3.7	9.5	0.0	4.3	0.0	0.0	0.7	0.9	18.0	1.1	3.0	1.9
30	3.0	7.0	0.0	3.5	6.6	14.3	9.9	1.0	-	2.8	0.0	0.0	3.0	0.0	0.4	0.0	2.6	-	11.7	0.4
31	0.0	0.0	0.0	0.0	0.0	2.3	0.8	0.0	4.1	0.4	0.0	0.0	3.0	0.0	0.0	0.0	-	0.0	2.2	0.7

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

OFFICIAL PRECIPITATION DATA (MM) IN MI COLLECTORS

DATE	N 03	N 05	N 06	N 07	N 08	N 09	N 13	N 14	N 15	N 16	N 20	N 23	N 24	N 28
1	0.0	0.0	0.0	0.0	0.6	0.0	0.0	8.3	0.7	0.5	0.0	0.0	5.2	1.1
2	2.5	3.0	4.1	6.9	7.5	25.3	2.0	27.2	12.2	5.9	1.7	9.6	22.0	3.9
3	2.6	0.0	7.2	5.0	34.1	22.2	0.8	24.3	8.4	0.3	0.0	0.0	12.2	1.7
4	0.0	0.0	0.1	0.0	3.4	3.1	0.0	14.3	3.5	2.5	0.0	0.0	2.8	0.1
5	18.5	6.9	21.3	30.0	28.4	27.0	9.3	3.7	7.4	4.0	9.5	6.2	25.3	3.1
6	5.0	0.4	4.7	5.4	1.4	5.5	0.0	7.0	0.2	6.7	4.5	0.1	3.3	2.7
7	2.0	2.4	0.1	0.6	1.6	2.5	1.2	3.7	0.0	4.7	2.0	1.7	3.0	1.3
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.2	3.1	0.0
9	2.0	0.0	0.7	3.0	18.1	26.4	0.0	31.6	15.7	0.6	0.0	0.0	31.0	3.2
10	18.0	0.0	3.7	10.9	31.0	41.3	0.0	34.1	33.7	0.0	0.0	0.0	25.3	4.5
11	10.0	0.0	3.0	5.8	10.2	13.9	0.5	17.9	18.2	0.7	0.0	0.0	4.0	2.9
12	16.5	13.7	10.6	12.9	22.2	33.6	0.7	0.5	8.5	2.0	5.6	3.9	12.0	1.0
13	3.0	1.0	2.5	3.0	7.7	10.0	8.4	7.7	6.0	7.0	4.6	0.1	5.0	2.4
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	3.0
15	6.0	4.1	4.5	6.5	5.6	12.5	3.7	3.3	2.0	2.3	0.0	3.6	12.4	1.6
16	4.2	6.8	7.3	3.5	13.4	11.5	2.0	0.1	1.4	11.0	2.9	3.2	8.9	3.2
17	0.0	0.0	0.0	0.0	0.0	1.4	0.0	3.0	0.0	0.0	0.0	0.0	0.8	0.0
18	7.8	0.0	1.6	0.5	16.4	7.5	2.7	5.9	2.6	0.0	0.0	0.0	7.5	1.2
19	5.5	4.9	1.9	1.2	16.1	24.0	3.8	0.0	0.7	1.2	0.0	6.5	1.7	3.9
20	16.5	12.8	1.4	12.0	10.6	5.0	11.7	0.0	0.1	4.0	8.7	4.7	4.2	2.9
21	3.5	3.2	0.2	0.5	3.0	2.4	1.5	0.9	4.7	5.1	1.5	1.6	4.0	0.5
22	4.0	1.2	1.3	2.7	0.0	0.7	1.3	0.0	0.5	0.0	0.0	0.0	0.0	3.1
23	1.6	1.6	0.0	1.0	8.5	0.8	2.1	10.3	0.0	1.0	0.0	2.0	6.5	1.1
24	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.5	0.2	0.0	0.0	0.0	2.5	0.0
25	1.3	0.5	1.3	3.5	3.5	6.5	0.7	13.5	10.5	1.8	0.0	0.4	12.5	3.9
26	0.0	0.0	0.9	0.0	3.4	7.5	0.0	23.5	18.5	0.0	0.0	0.0	3.1	0.6
27	0.6	0.0	0.0	0.0	12.0	2.6	0.0	8.2	24.8	0.0	0.0	0.0	2.9	3.9
28	1.5	0.0	0.9	7.4	1.6	3.2	0.1	20.2	35.5	0.0	0.0	0.0	3.0	0.0
29	13.6	0.3	2.2	10.5	29.0	25.6	3.4	4.9	11.1	0.0	0.0	0.0	21.0	2.6
30	3.5	0.0	5.6	7.4	12.0	9.1	1.3	-	10.0	0.0	0.0	0.0	4.5	5.1
31	0.0	0.0	0.4	0.0	2.5	1.0	0.0	4.7	0.6	0.0	0.0	0.0	1.7	1.3

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	0.06	-	-	0.21	0.06	0.12	-	-	-	-	-	-
2	0.01	0.02	0.03	0.84	0.22	0.01	0.10	0.03	0.07	0.08	0.02	0.02	-	0.03	-	0.27
3	-	0.03	-	4.50	0.31	0.23	1.48	0.04	0.17	0.06	0.42	-	-	-	0.96	-
4	-	-	-	-	-	0.60	2.26	-	0.25	0.02	6.20	-	-	-	-	-
5	0.03	0.03	0.02	0.72	0.22	0.11	0.26	0.02	0.12	0.09	0.03	0.02	0.06	0.01	0.66	2.10
6	-	0.20	0.08	4.00	0.94	0.12	0.47	-	0.05	-	0.61	0.01	-	0.01	-	-
7	0.06	0.04	0.06	0.85	0.23	0.05	0.15	0.07	0.07	-	0.02	0.02	0.12	0.01	0.25	1.48
8	-	-	-	-	-	-	-	-	0.12	-	-	-	-	-	-	-
9	-	0.87	-	-	2.52	0.19	0.57	-	0.02	0.01	0.09	-	-	-	-	-
10	0.65	0.56	-	8.00	1.61	0.14	0.39	-	0.03	0.02	-	-	-	-	-	-
11	0.34	0.28	-	8.00	1.00	0.49	0.88	0.19	0.04	0.18	0.18	-	-	-	-	-
12	0.06	0.04	0.06	1.68	0.30	0.06	0.30	0.15	0.10	0.16	0.02	0.06	-	0.01	1.37	11.50
13	-	0.45	0.10	20.80	2.10	0.68	1.77	0.02	0.15	0.02	0.01	0.04	-	0.01	-	-
14	-	-	-	-	-	-	-	-	-	0.02	-	0.07	-	-	-	-
15	0.19	0.11	0.17	2.80	0.63	0.13	0.72	0.10	0.09	0.10	0.04	-	-	-	1.30	12.90
16	0.26	0.46	0.06	3.20	0.71	0.15	0.74	0.07	-	0.02	0.01	0.07	0.14	0.04	-	5.08
17	-	-	-	-	-	-	0.30	-	0.12	-	-	0.03	-	-	-	-
18	-	0.16	-	4.00	1.56	0.03	0.21	0.11	0.07	0.28	-	-	-	-	3.30	-
19	0.15	0.40	0.15	12.40	2.10	0.09	0.50	0.20	-	0.14	0.07	-	-	-	1.14	3.20
20	0.19	0.03	0.05	0.52	0.16	0.01	0.08	0.05	-	-	0.02	0.03	-	0.01	-	0.78
21	0.06	0.09	0.11	-	1.00	0.03	0.20	0.04	0.12	0.02	0.04	0.03	-	0.01	0.80	-
22	0.16	0.04	0.14	0.12	0.15	-	0.06	0.03	-	0.06	-	-	0.14	-	-	-
23	0.13	0.10	0.04	-	0.40	0.03	0.12	0.23	0.10	-	0.09	-	-	-	-	0.86
24	-	-	-	-	-	-	-	0.28	0.05	0.11	-	-	-	-	-	-
25	-	0.15	0.45	0.86	0.27	0.05	0.08	0.05	0.36	0.01	0.03	-	-	-	-	0.71
26	-	-	-	1.05	-	0.13	0.32	-	0.16	0.09	-	-	-	-	-	-
27	-	1.02	-	-	-	0.81	1.15	-	0.56	0.29	-	-	-	-	-	-
28	0.47	0.18	-	1.66	0.14	0.48	0.30	0.56	0.52	0.39	-	-	-	-	9.24	-
29	0.22	0.18	0.72	6.50	0.50	0.04	0.21	0.04	0.10	0.03	-	0.17	-	-	8.00	21.30
30	0.07	0.46	-	3.24	0.48	0.72	1.27	0.18	-	0.49	-	-	-	-	3.00	-
31	-	-	-	-	-	1.42	-	-	0.28	0.36	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

CONCENTRATION OF MAGNESIUM IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 24	N 25	N 26	N 27	N 28
1	0.16	0.10	-	0.04	0.02
2	0.23	0.30	0.02	0.06	0.06
3	1.53	0.14	-	0.02	0.35
4	4.00	1.03	-	0.20	-
5	0.24	0.37	0.02	0.01	0.02
6	0.36	0.06	-	-	0.01
7	0.75	-	0.07	0.04	0.01
8	0.35	-	-	-	-
9	0.36	0.05	-	0.05	0.02
10	0.64	0.04	-	0.02	0.01
11	1.70	0.32	-	0.05	0.03
12	0.24	0.30	0.02	0.02	0.08
13	0.21	0.09	-	0.06	-
14	-	0.13	-	-	-
15	0.55	0.15	0.07	0.03	-
16	0.59	0.16	0.03	0.06	-
17	0.56	1.83	-	-	-
18	0.32	-	-	0.03	-
19	-	-	0.04	0.01	-
20	0.05	0.32	0.02	0.01	0.01
21	0.12	0.22	-	0.02	0.02
22	-	-	0.03	-	-
23	0.14	0.05	-	0.01	0.02
24	0.24	-	-	-	-
25	0.08	0.07	-	-	0.07
26	0.16	0.52	-	-	0.27
27	1.46	0.38	-	0.29	0.03
28	-	0.51	-	0.46	-
29	0.46	-	0.04	0.04	0.03
30	3.35	0.30	-	0.19	0.12
31	-	0.93	-	0.14	0.22



LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	0.5	-	-	5.1	0.3	2.9	-	-	-	-	-
2	0.1	0.3	0.2	0.8	0.7	0.1	0.5	0.1	0.2	0.3	0.3	1.3	-	0.2	-	0.5
3	-	0.2	-	0.5	0.0	0.3	0.0	0.5	0.2	0.0	4.2	-	-	-	3.7	-
4	-	-	-	-	-	0.8	1.0	-	0.8	0.4	0.0	-	-	-	-	-
5	0.7	0.2	0.3	1.0	0.4	1.1	0.4	0.3	0.2	0.4	0.4	0.4	1.5	0.3	2.1	1.2
6	-	0.2	2.5	0.2	0.1	1.2	0.1	-	0.5	-	0.1	0.4	-	0.3	-	-
7	2.6	1.4	1.4	-	2.5	1.5	1.5	1.7	1.7	-	0.1	0.7	1.3	1.2	7.7	6.4
8	-	-	-	-	-	-	-	-	0.8	-	-	-	-	-	-	-
9	-	2.7	-	-	4.9	1.6	1.5	-	0.7	0.4	1.5	-	-	-	-	-
10	4.9	0.0	-	1.6	3.4	1.8	2.0	-	0.2	0.3	-	-	-	-	-	-
11	0.2	0.0	-	1.6	0.5	0.6	0.6	3.8	0.4	0.1	2.2	-	-	-	-	-
12	1.1	0.7	1.5	0.7	1.0	0.8	0.0	0.3	0.7	0.0	0.4	1.8	-	0.1	3.6	3.9
13	-	0.1	1.0	4.6	1.3	0.4	0.7	0.6	0.9	0.1	0.4	1.6	-	0.4	-	-
14	-	-	-	-	-	-	-	-	-	0.1	-	0.8	-	-	-	-
15	1.9	1.4	2.3	2.1	2.3	0.2	1.8	1.4	0.6	0.2	0.2	-	-	-	4.5	5.5
16	0.5	0.4	1.1	0.7	0.8	0.0	0.1	0.2	-	0.1	0.3	3.2	0.8	2.3	-	2.3
17	-	-	-	-	-	-	0.9	-	1.7	-	-	1.1	-	-	-	-
18	-	1.5	-	3.4	8.1	0.1	2.7	0.2	2.7	0.5	-	-	-	-	4.4	-
19	1.8	3.2	2.5	9.2	5.8	2.8	2.9	4.7	-	0.9	0.8	-	-	-	12.0	2.9
20	3.7	1.9	2.4	2.5	4.0	1.0	3.1	3.2	-	-	0.4	1.1	-	0.4	-	7.5
21	3.3	5.4	4.1	-	20.1	2.2	6.3	3.2	6.5	0.7	0.4	1.6	-	1.5	12.6	-
22	6.0	3.4	8.0	1.4	4.0	-	1.2	4.4	-	0.9	-	-	1.1	-	-	-
23	8.0	6.7	2.6	-	10.3	2.0	2.4	2.4	3.5	-	4.8	-	-	-	-	10.7
24	-	-	-	-	-	-	-	1.8	3.0	1.0	-	-	-	-	-	-
25	-	5.1	5.2	1.5	6.5	2.7	2.8	0.8	2.2	0.9	1.6	-	-	-	-	7.2
26	-	-	-	1.4	-	0.8	1.0	-	0.9	0.1	-	-	-	-	-	-
27	-	3.7	-	-	-	1.0	2.0	-	0.3	0.0	-	-	-	-	-	-
28	7.4	2.9	-	1.9	3.5	2.3	2.7	5.4	0.7	0.1	-	-	-	-	18.1	-
29	4.8	2.9	10.5	2.5	4.5	1.6	1.8	2.0	0.8	0.4	-	6.4	-	-	16.6	13.2
30	0.6	0.4	-	1.2	1.4	0.3	0.2	0.8	-	0.0	-	-	-	-	7.8	-
31	-	-	-	-	-	0.9	-	-	0.2	-	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

SULPHATE IN PRECIPITATION (MILLIGRAMS PER LITER)

DATE	N 24	N 25	N 26	N 27	N 28
1	1.3	3.8	-	0.5	0.6
2	0.3	0.9	0.6	0.3	0.6
3	0.7	0.0	-	0.3	0.6
4	4.3	1.8	-	0.8	-
5	0.1	2.5	0.4	0.3	0.4
6	0.4	6.5	-	-	0.1
7	0.7	-	1.7	0.8	0.1
8	0.6	-	-	-	-
9	0.9	2.1	-	0.8	0.3
10	1.2	0.8	-	0.7	0.1
11	1.1	1.6	-	0.3	0.2
12	0.2	4.6	0.4	0.3	0.3
13	0.2	2.8	-	0.3	-
14	-	4.1	-	-	-
15	0.8	5.2	1.4	1.3	-
16	0.0	7.8	0.5	1.4	-
17	0.9	6.1	-	-	-
18	0.5	-	-	0.2	-
19	-	-	3.1	0.3	-
20	2.6	20.0	2.1	0.9	0.4
21	2.4	12.4	-	0.6	0.4
22	-	-	2.6	-	0.7
23	5.4	15.2	-	0.4	1.2
24	5.6	-	-	-	-
25	2.1	3.5	-	-	2.0
26	0.6	2.2	-	-	1.2
27	2.1	0.9	-	0.1	0.1
28	-	1.3	-	1.6	-
29	2.2	-	1.9	1.3	1.4
30	0.7	1.0	-	0.1	1.8
31	-	5.6	-	0.6	4.6

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LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

PH IN PRECIPITATION

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	-	-	-	6.80	5.85	-	-	-	-	-	-
2	5.15	5.35	5.60	4.80	4.75	5.50	5.15	5.95	5.85	5.40	5.65	5.55	-	5.70	-	5.00
3	-	5.80	-	5.50	5.70	5.15	5.25	5.90	5.85	5.55	-	-	-	-	5.85	-
4	-	-	-	-	-	5.80	5.05	-	6.50	5.35	7.55	-	-	-	-	-
5	4.80	5.10	5.15	4.70	4.75	5.35	4.95	5.25	6.65	5.40	5.75	5.60	5.10	5.10	5.30	4.80
6	-	5.20	-	5.60	5.80	5.60	5.85	-	6.50	-	5.70	5.75	-	4.70	-	-
7	4.30	4.60	4.65	-	5.05	5.60	5.60	4.65	5.80	-	5.05	4.55	5.15	4.50	3.90	4.30
8	-	-	-	-	-	-	-	-	7.30	-	-	-	-	-	-	-
9	-	4.35	-	-	4.20	4.45	4.50	-	6.35	5.30	-	-	-	-	-	-
10	4.00	4.15	-	4.00	4.05	4.45	4.45	-	5.80	5.50	-	-	-	-	-	-
11	4.65	5.20	-	5.65	5.50	5.10	5.40	4.55	5.75	5.40	4.85	-	-	-	-	-
12	4.55	4.75	4.55	4.80	4.65	5.20	5.35	5.45	-	5.25	5.40	4.70	-	4.85	4.30	4.45
13	-	6.15	4.55	6.20	5.50	5.60	5.55	5.00	6.10	5.15	4.70	4.65	-	4.65	-	-
14	-	-	-	-	-	-	-	-	5.30	-	4.95	-	-	-	-	-
15	4.30	4.50	5.35	4.30	4.30	4.80	6.30	4.70	6.40	5.30	4.85	-	-	-	4.10	4.40
16	5.20	5.80	5.10	5.70	5.90	5.60	5.80	5.40	-	4.85	4.80	4.45	5.15	4.20	4.60	6.15
17	-	-	-	-	-	-	5.60	-	6.65	-	-	4.40	-	-	-	-
18	-	4.45	-	4.25	-	5.30	4.40	5.50	6.35	4.75	-	-	-	-	4.25	-
19	4.35	4.10	4.25	3.65	3.70	4.15	4.10	4.00	-	5.20	5.55	-	-	-	-	4.60
20	4.10	4.40	4.20	3.90	4.30	4.45	4.15	4.15	-	-	4.50	4.40	-	4.20	-	3.90
21	4.20	4.30	4.20	-	3.60	4.55	4.00	4.10	6.45	4.60	4.50	4.40	-	4.20	3.65	-
22	4.05	4.40	3.95	4.10	4.30	-	4.65	4.00	-	4.50	-	-	5.40	-	-	-
23	3.75	4.05	4.30	-	3.95	4.30	4.60	4.40	6.60	-	4.15	-	-	-	-	3.75
24	-	-	-	-	-	-	-	-	6.25	-	-	-	-	-	-	-
25	-	4.30	6.60	4.00	4.00	4.50	4.40	5.10	6.60	4.75	4.90	-	-	-	-	-
26	-	-	-	4.40	-	5.30	5.30	-	6.65	5.35	-	-	-	-	-	-
27	-	4.70	-	-	-	4.80	5.75	-	5.30	5.50	-	-	-	-	-	-
28	3.80	4.35	-	4.30	4.20	4.40	4.55	-	5.95	5.35	-	-	-	-	3.90	-
29	4.10	4.20	-	4.30	4.10	4.55	4.50	4.55	4.95	5.10	-	4.10	-	-	3.80	3.80
30	4.95	5.20	-	4.75	4.80	5.25	5.20	6.35	-	5.50	-	-	-	-	6.60	-
31	-	-	-	-	-	5.90	-	-	5.80	5.50	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

PH IN PRECIPITATION

DATE	N 24	N 25	N 26	N 27	N 28
1	5.50	4.35	-	-	5.35
2	5.15	4.90	4.95	6.00	5.10
3	5.50	5.25	-	5.35	5.10
4	4.70	4.50	-	-	-
5	5.55	4.55	5.20	5.50	5.00
6	4.70	3.90	-	-	4.70
7	4.80	-	4.35	4.90	4.60
8	5.50	-	-	-	-
9	4.75	4.50	-	5.55	4.90
10	4.75	5.20	-	4.80	5.25
11	5.40	6.45	-	5.30	4.90
12	5.65	-	4.80	5.40	4.75
13	5.30	4.80	-	5.45	-
14	-	4.65	-	-	-
15	5.25	4.75	4.40	5.05	-
16	5.30	-	5.15	6.35	-
17	5.40	4.20	-	-	-
18	4.80	-	-	5.55	-
19	-	-	4.05	4.90	-
20	4.20	-	4.20	4.40	4.70
21	4.40	4.00	-	4.80	4.40
22	-	-	4.15	-	3.95
23	3.90	3.65	-	4.70	4.30
24	3.95	-	-	-	-
25	4.35	4.30	-	-	4.25
26	5.20	5.20	-	-	4.85
27	5.15	6.65	-	5.40	5.10
28	-	-	-	5.85	-
29	4.40	-	4.55	5.00	4.60
30	6.00	-	-	5.35	4.50
31	-	6.60	-	5.80	3.95

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	-	-	-	-	-	-	-	-	-274	-3	-	-	-	-	-	-
2	4	0	-24	17	18	-2	1	-16	-11	-2	-5	1	-	-8	-	4
3	-	-7	-	-3	-6	6	8	-4	-26	-4	-	-	-	-	-26	-
4	-	-	-	-	-	-8	7	-	-128	1	-999	-	-	-	-	-
5	16	8	7	18	19	1	14	2	-178	0	-12	2	14	3	2	19
6	-	3	-	-3	-6	-8	-15	-	-111	-	-6	-2	-	16	-	-
7	56	26	16	-	-	-4	-2	22	-4	-	10	42	4	42	146	58
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	58	-	-	63	35	33	-	-67	2	-	-	-	-	-	-
10	115	84	-	100	89	35	38	-	-16	-5	-	-	-	-	-	-
11	26	5	-	-12	-3	3	1	28	-22	0	14	-	-	-	-	-
12	28	15	30	16	28	2	0	1	-	1	2	21	-	13	67	46
13	-	-44	30	-	-6	-6	-6	11	-120	2	23	24	-	22	-	-
14	-	-	-	-	-	-	-	-	-	-4	-	12	-	-	-	-
15	54	36	-16	50	50	14	-54	21	-166	-2	8	-	-	-	92	44
16	3	-10	-1	-11	-10	-12	-11	-19	-	14	15	35	7	63	25	-64
17	-	-	-	-	-	-	-20	-	-94	-	-	40	-	-	-	-
18	-	38	-	56	-	0	46	-8	-137	14	-	-	-	-	68	-
19	50	88	56	225	200	71	83	100	-	5	-	-	-	-	-	32
20	91	42	63	125	50	35	75	71	-	-	31	40	-	63	-	142
21	67	51	63	-	250	33	114	80	-90	29	31	40	-	63	250	-
22	99	46	112	80	50	-	15	100	-	32	-	-	-1	-	-	-
23	201	106	50	-	112	50	27	40	-249	-	71	-	-	-	-	212
24	-	-	-	-	-	-	-	-	-61	-	-	-	-	-	-	-
25	-	60	-363	100	100	39	49	3	-216	16	8	-	-	-	-	-
26	-	-	-	40	-	-1	-5	-	-39	3	-	-	-	-	-	-
27	-	24	-	-	-	19	-14	-	-2	-3	-	-	-	-	-	-
28	160	54	-	50	63	40	28	-	-62	-1	-	-	-	-	125	-
29	89	63	-	50	80	29	35	33	13	6	-	80	-	-	160	219
30	11	3	-	19	17	2	3	-130	-	-4	-	-	-	-	-	-
31	-	-	-	-	-	-14	-	-	-18	-	-	-	-	-	-	-

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

STRONG ACID IN PRECIPITATION (MICROEQUIVALENTS PER LITER)

DATE	N 24	N 25	N 26	N 27	N 28
1	-	44	-	-	2
2	8	4	12	-2	5
3	-4	8	-	-1	8
4	18	28	-	-	-
5	2	28	5	-3	8
6	26	132	-	-	19
7	32	-	46	13	25
8	-4	-	-	-	-
9	18	-18	-	-17	11
10	17	-6	-	17	2
11	0	-	-	0	12
12	-5	-	15	3	18
13	2	10	-	2	-
14	-	14	-	-	-
15	2	18	36	8	-
16	2	-	7	-96	-
17	-2	63	-	-	-
18	18	-	-	-8	-
19	-	-	96	11	-
20	70	-	74	40	20
21	47	100	-	18	40
22	-	-	79	-	112
23	136	290	-	24	50
24	130	-	-	-	-
25	50	50	-	-	56
26	2	2	-	-	14
27	4	-	-	-1	8
28	-	-	-	-54	-
29	45	-	28	9	34
30	-23	-	-	3	32
31	-	-168	-	-10	112

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

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SO2 IN AIR ( MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25	N 25
1	3	5	3	4	4	1	2
2	1	5	5	1	1	1	1
3	1	4	4	7	1	1	1
4	1	4	4	3	1	1	1
5	2	3	7	4	6	1	1
6	2	1	18	8	1	1	4
7	2	1	3	10	1	1	2
8	3	3	1	21	4	2	2
9	5	3	1	15	1	2	1
10	6	4	1	9	9	1	1
11	1	1	1	3	3	1	1
12	1	1	9	8	7	5	1
13	1	1	1	6	3	6	2
14	4	3	7	8	1	6	2
15	1	1	9	4	1	4	1
16	4	7	9	2	15	5	5
17	1	4	10	2	53	7	1
18	1	3	5	4	1	9	1
19	1	4	1	6	7	7	3
20	12	10	12	19	16	12	3
21	22	12	13	30	25	18	6
22	14	11	15	16	6	13	1
23	11	3	14	16	6	4	1
24	7	4	9	12	5	3	1
25	1	1	7	14	4	1	4
26	1	1	11	6	4	1	5
27	6	1	7	8	7	7	5
28	7	3	8	4	8	4	15
29	9	2	1	4	1	3	16
30	7	1	1	1	3	4	-
31	3	1	1	6	6	2	1

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

SULPHATE COLLECTED ON FILTER (MICROGRAMS PER M3)

DATE	N 01	N 03	N 09	N 22	N 23	N 25	N 25
1	1.1	1.3	1.4	4.8	2.6	0.1	-
2	0.4	0.5	1.0	4.4	1.1	0.6	-
3	0.2	0.7	1.0	1.8	0.5	0.0	-
4	0.5	0.5	0.4	0.5	0.5	0.2	-
5	1.0	0.4	0.2	1.6	1.7	0.5	-
6	1.1	0.4	0.0	2.8	1.6	1.6	-
7	3.8	3.2	1.1	6.4	5.8	2.5	-
8	1.9	2.0	2.1	6.6	4.9	0.6	-
9	2.6	1.6	2.7	7.9	4.0	0.2	-
10	3.3	2.9	0.6	10.9	7.3	0.0	-
11	0.4	0.5	1.1	0.0	0.7	0.2	-
12	0.4	0.3	0.3	2.0	1.4	0.5	-
13	0.3	0.4	0.7	1.3	1.5	0.6	-
14	0.6	0.4	0.8	2.0	0.7	0.8	-
15	0.4	0.3	1.7	2.8	1.8	0.4	-
16	0.5	0.3	0.8	6.0	1.8	1.0	-
17	0.2	0.6	0.7	0.4	1.0	0.8	-
18	0.5	0.3	0.3	1.9	0.0	0.2	-
19	5.5	4.9	3.4	2.0	0.2	0.3	-
20	5.9	5.7	5.3	8.6	6.7	0.8	-
21	14.6	10.2	4.5	12.8	17.1	2.1	-
22	9.9	10.2	4.9	15.2	8.0	3.9	-
23	7.9	6.7	5.7	14.7	12.9	3.4	-
24	5.6	5.5	3.0	7.9	15.1	1.6	-
25	1.9	2.5	1.2	18.1	4.0	0.7	-
26	1.0	1.0	0.8	4.2	0.7	0.2	-
27	1.5	1.3	6.1	2.4	0.7	0.0	-
28	1.2	1.1	0.2	14.1	0.3	0.0	-
29	4.0	3.7	0.3	2.0	3.3	0.3	-
30	0.5	0.9	1.9	0.3	0.6	0.0	-
31	0.7	0.9	3.3	1.8	0.2	0.3	0.5

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

PRECIPITATED SULPHATE (MILLIGRAMS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23	N 24	N 26	N 27	N 28
1	0	0	0	0	0	0	0	0	42	0	3	0	0	0	0	0	2	0	0	0
2	1	1	1	3	5	1	14	0	4	3	1	3	0	0	0	4	6	1	1	1
3	0	1	0	2	0	10	0	0	5	0	1	0	0	0	5	0	6	0	3	0
4	0	0	0	0	0	3	4	0	9	1	0	0	0	0	0	0	8	0	1	0
5	6	5	2	24	13	39	10	2	1	3	1	4	9	3	24	4	2	4	5	1
6	0	1	2	1	1	2	0	0	3	0	1	5	0	1	0	0	1	0	0	0
7	1	3	4	0	1	3	2	2	6	0	0	2	18	3	20	13	2	3	1	0
8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
9	0	6	0	0	11	31	40	0	23	6	1	0	0	0	0	0	28	0	2	1
10	27	0	0	6	35	64	84	0	8	5	0	0	0	0	0	0	29	0	10	0
11	0	0	0	2	2	8	8	1	6	0	2	0	0	0	0	0	3	0	5	0
12	18	11	22	8	13	17	0	0	0	0	1	6	0	1	19	15	3	5	2	0
13	0	0	1	4	3	3	7	5	5	1	2	9	0	2	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
15	14	8	10	8	13	1	2	6	2	0	0	0	0	0	9	22	10	7	4	0
16	1	2	8	4	2	0	1	0	0	0	3	15	5	6	0	4	0	-	7	0
17	0	0	0	0	0	0	1	0	5	0	0	5	0	0	0	0	1	0	0	0
18	0	11	0	6	3	2	11	1	15	1	0	0	0	0	9	0	3	0	1	0
19	14	18	12	6	5	48	58	18	0	1	1	0	0	0	4	14	-	19	3	0
20	29	26	33	8	67	10	14	40	0	0	1	10	0	4	0	31	10	27	6	1
21	29	19	15	0	8	6	7	6	5	3	2	8	0	3	22	0	8	0	3	0
22	33	11	11	3	12	0	1	7	0	0	0	0	7	0	0	0	0	11	0	0
23	8	13	4	0	10	17	2	6	35	0	5	0	0	0	0	12	28	0	2	1
24	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	14	0	0	0
25	0	7	4	2	7	11	10	1	28	8	2	0	0	0	0	3	27	0	0	1
26	0	0	0	1	0	3	6	0	20	1	0	0	0	0	0	0	5	0	0	0
27	0	3	0	0	0	14	4	0	2	0	0	0	0	0	0	0	4	0	1	0
28	3	5	0	2	24	4	5	1	13	2	0	0	0	0	10	0	0	0	5	0
29	24	42	3	6	46	50	46	8	3	4	0	28	0	0	12	11	39	2	4	3
30	2	3	0	4	9	4	2	1	-	0	0	0	0	0	3	0	2	-	1	1
31	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	-	0	1	3

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 01	N 03	N 05	N 06	N 07	N 08	N 09	N 10	N 14	N 15	N 16	N 18	N 19	N 20	N 22	N 23
1	0	0	0	0	0	0	0	0	-2250	-2	0	0	0	0	0	0
2	18	0	-51	69	110	-16	25	-34	-276	-20	-29	3	0	-13	0	36
3	0	-21	0	-13	-23	221	188	-3	-576	-28	0	0	0	0	-33	0
4	0	0	0	0	0	-27	29	0	-1450	3	-2480	0	0	0	0	0
5	132	153	48	416	558	35	378	18	-635	0	-34	18	80	29	24	73
6	0	15	0	-11	-28	-13	-57	0	-714	0	-30	-25	0	85	0	0
7	32	50	41	0	0	-7	-3	28	-14	0	45	136	54	94	372	118
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	129	0	0	144	689	871	0	-2137	28	0	0	0	0	0	0
10	637	1578	0	357	907	1234	1569	0	-553	-103	0	0	0	0	0	0
11	13	49	0	-16	-13	37	14	11	-340	0	12	0	0	0	0	0
12	476	255	424	191	352	44	0	1	0	6	4	67	0	80	354	171
13	0	-126	33	0	-13	-52	-61	95	-756	10	106	138	0	105	0	0
14	0	0	0	0	0	0	0	0	0	-5	0	11	0	0	0	0
15	402	206	-70	194	286	83	-58	83	-497	-3	15	0	0	0	193	178
16	8	-43	-7	-68	-32	-195	-126	-45	0	14	144	167	44	176	16	-114
17	0	0	0	0	0	0	-25	0	-263	0	0	178	0	0	0	0
18	0	290	0	96	0	0	190	-23	-776	20	0	0	0	0	139	0
19	382	482	260	158	178	1220	1675	388	0	3	0	0	0	0	0	148
20	724	570	846	398	634	345	329	881	0	0	111	357	0	570	0	579
21	576	179	225	0	95	92	131	148	-63	103	142	194	0	116	438	0
22	551	146	150	153	150	0	15	159	0	12	0	0	-6	0	0	0
23	192	202	70	0	114	407	22	97	-2473	0	75	0	0	0	0	236
24	0	0	0	0	0	0	0	0	-245	0	0	0	0	0	0	0
25	0	84	-277	153	102	151	181	3	-2681	146	9	0	0	0	0	0
26	0	0	0	25	0	-4	-32	0	-884	39	0	0	0	0	0	0
27	0	21	0	0	0	261	-30	0	-15	-45	0	0	0	0	0	0
28	61	100	0	45	445	69	48	0	-1164	-19	0	0	0	0	72	0
29	453	902	0	124	815	925	896	128	48	57	0	346	0	0	112	188
30	33	21	0	67	111	29	30	-132	-	-11	0	0	0	0	0	0
31	0	0	0	0	0	-32	0	0	-74	0	0	0	0	0	0	0

LONG RANGE TRANSPORT OF AIR POLLUTANTS, PRELIMINARY DATA DECEMBER 73

PRECIPITATED ACID (MICROEQUIVALENTS PER M2)

DATE	N 24	N 25	N 26	N 27	N 28
1	0	-	0	0	1
2	171	-	17	-4	7
3	-36	-	0	-13	2
4	34	-	0	0	0
5	48	-	43	-49	13
6	69	-	0	0	39
7	71	-	75	11	22
8	-9	-	0	0	0
9	561	-	0	-43	25
10	411	-	0	238	7
11	0	-	0	0	5
12	-56	-	192	22	4
13	6	-	0	3	0
14	0	-	0	0	0
15	24	-	183	22	0
16	17	-	-	-483	0
17	-1	-	0	0	0
18	109	-	0	-33	0
19	-	-	581	132	0
20	279	-	961	252	24
21	159	-	0	81	9
22	0	-	327	0	18
23	693	-	0	110	43
24	331	-	0	0	0
25	637	-	0	0	23
26	16	-	0	0	4
27	7	-	0	-7	26
28	0	-	0	-158	0
29	809	-	31	27	65
30	-60	-	-	35	13
31	-	-	0	-22	78

LONG RANGE TRANSPORT OF AIR POLLUTANTS. MONTHLY SUMMARY OF RESULTS

STASJON 22 VASSER

NORWAY

MONTH DEC 1973

DATE	PRECIPIT		CONCENTRATIONS IN PRECIPITATION					PRECIPITATION PR SQ.M		AIR CONCENTRATIONS	
	MM (NILU)	MM (MI)	MICROEQ. PR LITER	H+	MILLIGRAM PR LITER	PERCENT H2SO4	MILLIEQ. PR SQ.M	MILLIGRAM PR SQ.M	MICROGRAM PR CU.M		
			PH	H+	MG++	SO4--		H+	SO4--	SO2	SO4--
1	0.0	-	-	-	-	-	-	0.00	0.0	4	4.8
2	0.0	-	-	-	-	-	-	0.00	0.0	1	4.4
3	1.3	-	5.85	-26	0.96	3.5	0	-0.03	4.5	7	1.8
4	0.0	-	-	-	-	-	-	0.00	0.0	3	0.5
5	11.8	-	5.30	2	0.66	1.7	6	0.02	20.4	4	1.6
6	0.0	-	-	-	-	-	-	0.00	0.0	8	2.8
7	2.5	-	3.90	146	0.25	11.1	63	0.37	28.2	10	6.4
8	0.0	-	-	-	-	-	-	0.00	0.0	21	6.6
9	0.0	-	-	-	-	-	-	0.00	0.0	15	7.9
10	0.0	-	-	-	-	-	-	0.00	0.0	9	10.9
11	0.0	-	-	-	-	-	-	0.00	0.0	3	0.0
12	5.3	-	4.30	67	1.37	2.5	127	0.35	13.4	8	2.0
13	0.0	-	-	-	-	-	-	0.00	0.0	6	1.3
14	0.0	-	-	-	-	-	-	0.00	0.0	8	2.0
15	2.1	-	4.10	92	1.30	4.0	110	0.19	8.5	4	2.8
16	0.6	-	4.60	25	-	-	-	0.02	-	2	6.0
17	0.0	-	-	-	-	-	-	0.00	0.0	2	0.4
18	2.0	-	4.25	68	3.30	0.0	-	0.14	0.0	4	1.9
19	0.3	-	-	-	1.14	15.7	-	-	5.0	6	2.0
20	0.0	-	-	-	-	-	-	0.00	0.0	19	8.6
21	1.8	-	3.65	250	0.80	17.2	70	0.44	30.1	30	12.8
22	0.0	-	-	-	-	-	-	0.00	0.0	16	15.2
23	0.0	-	-	-	-	-	-	0.00	0.0	16	14.7
24	0.0	-	-	-	-	-	-	0.00	0.0	12	7.9
25	0.0	-	-	-	-	-	-	0.00	0.0	14	18.1
26	0.0	-	-	-	-	-	-	0.00	0.0	6	4.2
27	0.0	-	-	-	-	-	-	0.00	0.0	8	2.4
28	0.6	-	3.90	125	9.24	7.9	76	0.07	4.5	4	14.1
29	0.7	-	3.80	160	8.00	8.2	93	0.11	5.8	4	2.0
30	0.4	-	6.60	-	3.00	5.5	-	-	2.5	1	0.3
31	0.0	-	-	-	-	-	-	0.00	0.0	6	1.8

TOTAL PRECIPITATION DURING THE MONTH 29. MM BASED ON NILU COLLECTORS

TOTAL PRECIPITATION DURING THE MONTH - MM BASED ON MI COLLECTORS

THE FOLLOWING CALCULATIONS ARE BASED ON NILU COLLECTORS

- >PRECIPITATED STRONG ACID 1.69 MILLIEQ. H+/M2
- >PRECIPITATED SULPHURIC ACID 83. MILLIGRAM/M2 BASED ON STRONG ACID MEASUREMENTS
- PRECIPITATED SULPHATE 123. MILLIGRAM SO4/M2
- WEIGHTED MEAN PH IN PRECIPITATION 4.28
- CALCULATED PERCENTAGE OF SULPHURIC ACID BASED ON THE PRECIPITATED SULPHATE 66.
- >PRECIPITATED MAGNESIUM 40.3 MILLIGRAM/M2
- MONTHLY MEAN SO2-CONCENTRATION 8.4 MICROGRAM/M3
- MONTHLY MEAN SULPHATE CONCENTRATION IN AIR 5.43 MICROGRAM/M3













BILAG 8 (a)

Sammenheng mellom konsentrasjon  
av sulfat og sterk syre for  
seks stasjoner 1973.

Relation between  
concentrations of sulphate  
and strong acid for six  
stations 1973.

Enkel lineær regresjonsanalyse:  $y = ax + b$

$y$  = sterk syre  $\mu\text{ekv}/\ell$

$x$  = sulfat  $\text{mg}/\ell$

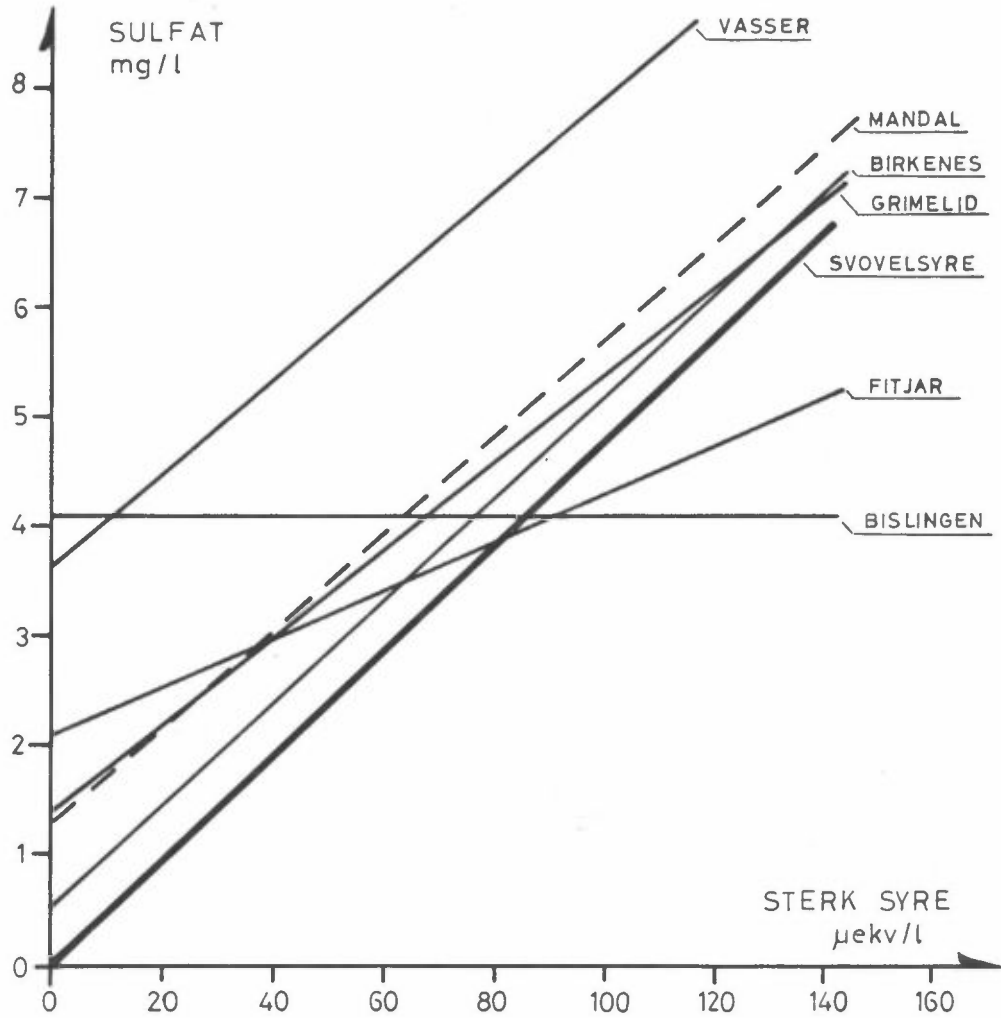
Målinger der  $|y| \geq 1$  og  $x \geq 0.1$  er tatt med.

N = antall målinger i regresjonsanalysen
r = korrelasjonskoeffisient
a = regresjonskoeffisient
b = regresjonskonstant

Resultat

	N	r	$a \cdot 10^2$	b
Birkenes	123	0.92	4.7	0.5
Mandal	142	0.83	4.5	1.3
Bislingen	45	-0.02	-0.05	4.1
Grimelid	91	0.71	4.0	1.4
Vasser	80	0.64	4.3	3.6
Fitjar	195	0.59	2.2	2.1

BILAG 8 (b)



Regresjonslinjer sulfat/sterk syre for seks stasjoner.1973.









