**The MAP3S Precipitation
Chemistry Network:
Seventh Periodic Summary Report (1983)**

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THE MAP3S PRECIPITATION CHEMISTRY NETWORK:
SEVENTH PERIODIC SUMMARY REPORT (1983)

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M. Terry Dana

November 1984

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PREFACE

This report contains a listing of precipitation chemistry data collected during 1983. It is the seventh of the planned annual summaries of the data collected by the MAP3S Precipitation Chemistry Network (PCN).

The primary objective of the project is to collect the precipitation concentration data and distribute them promptly. Further analysis of the data and use of the data as an aid in precipitation chemistry research is generally left to the reader, but analyses and interesting applications of the results may appear in summary reports or in the open literature authored by the persons listed below.

Users of the data (and the corresponding computer data base managed by Brookhaven National Laboratory) are advised to study the data table legends and other information in this report prior to making extensive calculations and interpretations. Please inform the authors of any deletions of vital information or ambiguities.

Cooperating organizations and personnel are as follows:

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Geosciences Research and
Engineering Department

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Department of Energy and Environment

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University of Delaware
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SUMMARY

This summary report, the seventh in the series, contains complete field and chemical data from the MAP3S Precipitation Chemistry Network for the year 1983. Sections cover QA/QC of the MAP3S/PCN; network history, network site information and a MAP3S/PCN bibliography; and a brief statistical look at the laboratory operations for 1983. There is also a brief statistical summary for 1982-83. Included under the Quality Control section are the QA audits for site performance, laboratory comparisons, field blank and pH test results, and sample shipping and analysis results. Included is a listing of cooperating organizations and personnel for the MAP3S/PCN.

CONTENTS

PREFACE	iii
SUMMARY	v
1.0 INTRODUCTION	1.1
2.0 DATA FOR 1983	2.1
3.0 MAP3S PRECIPITATION CHEMISTRY NETWORK: HISTORY (1975-1983) AND BIBLIOGRAPHY	3.1
4.0 QUALITY CONTROL	4.1
4.1 RESULTS OF USGS/MAP3S BLIND AUDIT PROGRAM	4.1
4.2 INTRALABORATORY COMPARISONS	4.10
4.3 INTERLABORATORY COMPARISONS	4.17
4.4 FIELD BLANKS AND pH TEST RESULTS	4.19
4.5 SITE AUDITS	4.23
4.6 SAMPLE SHIPPING AND ANALYSIS	4.24
5.0 STATISTICAL SUMMARY FOR 1982-83	5.1
6.0 REFERENCES	6.1
APPENDIX A LEGEND FOR DATA TABLES	A.1

FIGURES

1.	Location of MAP3S/PCN Sites	3.4
2.	MAP3S Laboratory Determination of Cl^- Versus USGS Most Probable Value of Cl^-	4.2
3.	MAP3S Laboratory Determination of NO_3^- Versus USGS Most Probable Value of NO_3^-	4.3
4.	MAP3S Laboratory Determination of SO_4^{2-} Versus USGS Most Probable Value of SO_4^{2-}	4.4
5.	MAP3S Laboratory Determination of PO_4^{3-} Versus USGS Most Probable Value of PO_4^{3-}	4.5
6.	MAP3S Laboratory Determination of Na^+ Versus USGS Most Probable Value of Na^+	4.6
7.	MAP3S Laboratory Determination of K^+ Versus USGS Most Probable Value of K^+	4.7
8.	MAP3S Laboratory Determination of Mg^{2+} Versus USGS Most Probable Value of Mg^{2+}	4.8
9.	MAP3S Laboratory Determination of Ca^{2+} Versus USGS Most Probable Value of Ca^{2+}	4.9
10.	Error Determination for AWC NH_4^+ Method	4.13

TABLES

1	Samples Available	2.2
2	Chemistry Data for 1983	2.8
3	Sample Notes	2.107
4	Sample Note Codes Ordered by Sample ID	2.108
5	Chemistry Network Rain Gauge Data	2.109
6	Network Site Identification and Participating Organizations	3.3
7	Network Site Details	3.3

8	MAP3S/PCN History in Brief	3.9
9	MAP3S/PCN Periodic Summary Reports	3.11
10	MAP3S/PCN Collector Type and Area Record Through December 1983.	3.12
11	Chemical Species and Analysis Details	3.13
12	Comparison Sets for NH_4^+	4.11
13	Comparison Results for NH_4^+	4.11
14	Precision Results for NH_4^+	4.14
15	Linear Regression Analysis for Ca^{2+} and Mg^{2+}	4.14
16	Mean Relative Differences for Duplicate Analysis Data: All Results Above Detection Limits Included	4.16
17	Mean Relative Differences for Duplicate Analysis Data: Data <10 Times Detection Limits Excluded	4.17
18	Comparison Between IMMR and PNL Chemical Analyses: MAP3S/PCN Rain Samples	4.18
19	Comparison Between BNL and PNL Chemical Analyses: MAP3S/PCN Rain Samples	4.20
20	Field Blank Results	4.22
21	pH Test Results	4.23
22	QA Site Audit pH Test Solution Results	4.52
23	Sample Shipping and Storage	4.52
24	Procedures for Precipitation Chemistry Laboratory (PCL) Data Base Calculations	5.2
25	General Statistics for 1982	5.4
26	General Statistics for 1983	5.8
27	Precipitation Totals for 1982 and 1983	5.12
28	Monthly Total and Edited Number of Events for 1982 and 1983	5.13

29	Monthly Weighted Averages for 1982	.	.	.	.	.	.	.	5,15
A.1	Legend for Table 2	.	.	.	.	.	.	.	A.1
A.2	Special Data Table Codes	.	.	.	.	.	.	.	A.3
A.3	MAP3S/PCN Note Codes	.	.	.	.	.	.	.	A.4

1.0 INTROOUCION

Pacific Northwest Laboratory is charged with the operation of a research network of separately funded precipitation collection sites in the northeastern United States, the auditing of these sites, the chemical analysis of the precipitation event samples collected at the network sites for all species of interest to the Interagency Task Force on Acid Precipitation, and reporting the chemical analysis results to MAP3S participants, the MAP3S Data Bank, and the U.S. Environmental Protection Agency Acid Deposition Base in bimonthly and periodic summary form. This report is the seventh such periodic summary report.

Section 2 of this report contains the data for 1983. This data includes the field data collected by the MAP3S/PCN sites, the chemistry data for the precipitation events collected, and the hourly precipitation data for each site per month. Data for periods prior to 1983 are listed in the first six summaries^(1, 2, 3, 4, 5, 6). A statistical overview for the period 1976-1979 is also available⁽⁷⁾. Section 3 contains a MAP3S/PCN history and bibliography. The history includes site locations, data periods, and chemical analyses information. A complete description of procedures and quality control may be found in another report⁽⁸⁾. Section 4 contains the quality assurance data for 1983. This includes the U.S. Geological Survey quality control sample data, inter- and intralaboratory comparison studies, and the site audit data. The final section, Section 5, is a statistical summary (including weighted averages and simple concentration statistics) for 1982 and 1983.

2.0 DATA FOR 1983

The results of the field data collection and chemical analyses of precipitation samples collected on the MAP3S/PCN during 1983 are listed in the following tables. Hourly precipitation data by month and site are also included in these tables.

Table 1 shows data availability. Each row represents a date, which is the date of collection^(a) of one or more samples. An "X" in a column indicates that a sample was collected on that date at the site heading the column.

The chronological list of field and chemistry data is shown in Table 2. Each row corresponds to a collection^(a) date and a site, and each column corresponds to a parameter. Because there are 23 parameters, this table is broken into three sub-tables, as described in the data tables legend in Appendix A.

Sample and predicted volumes should be used for comparison and weighting purposes only, and not for calculation of rainfall amounts. Collector areas vary from time to time^(b).

In October 1983, the comments concerning conditions of the samples, whether in the field or the lab, were added to the data base using the U.S. Environmental Protection Agency (EPA) Acid Deposition System (ADS)⁽⁹⁾ note codes. Table 3 is a summary of the notes or comments for October through December 1983. Table 4 is a list of the sample notes ordered by sample ID. A complete list of the ADS note codes used by the MAP3S/PCN may be found in Appendix A.

Table 5 lists the hourly precipitation amounts in centimeters for each site. Each row represents a day of the month listed at the top of the page and each column corresponds to one hour. The precipitation recorded is the amount that fell in the hour previous to the time listed in the column.

---

^(a)Not necessarily the date of precipitation occurrence.

^(b)Information on collector areas is provided in Table 10.

TABLE 1. Samples Available

2/

	White face	Pen thaca	Virg stata	Ill inoia	Brook haven	Lew ea	Ox ford	Oak ridge
1 Jan 1983	X	-	-	-	-	X	-	-
3 Jan 1983	X	-	-	X	-	-	-	X
4 Jan 1983	X	-	-	-	X	-	-	-
6 Jan 1983	-	-	-	-	-	X	-	-
7 Jan 1983	-	-	-	-	-	X	-	-
8 Jan 1983	X	-	-	-	-	-	-	-
10 Jan 1983	-	-	-	-	X	-	X	X
11 Jan 1983	-	X	-	X	X	X	X	X
12 Jan 1983	X	-	X	-	X	X	-	-
13 Jan 1983	X	X	-	-	-	-	-	X
14 Jan 1983	-	-	-	-	-	-	-	-
15 Jan 1983	-	-	-	-	-	-	X	-
16 Jan 1983	-	-	X	-	-	X	-	-
17 Jan 1983	X	X	-	-	-	-	-	-
20 Jan 1983	-	X	-	-	-	-	-	-
22 Jan 1983	-	-	-	-	-	-	X	-
24 Jan 1983	-	X	X	X	X	X	X	X
25 Jan 1983	X	-	-	-	-	-	-	-
26 Jan 1983	X	-	-	-	-	-	-	-
27 Jan 1983	-	X	-	-	X	-	-	-
30 Jan 1983	-	-	-	-	-	-	X	-
31 Jan 1983	-	-	X	X	X	X	-	X
1 Feb 1983	X	X	-	-	-	-	-	-
2 Feb 1983	-	-	-	-	X	-	X	X
3 Feb 1983	X	-	X	X	X	X	-	-
4 Feb 1983	X	X	-	-	-	X	X	-
5 Feb 1983	-	-	X	-	-	-	-	-
7 Feb 1983	X	-	-	X	X	X	X	-
8 Feb 1983	-	X	X	-	-	-	-	X
9 Feb 1983	X	-	-	-	X	-	-	-
11 Feb 1983	-	-	-	-	-	-	-	X
12 Feb 1983	-	-	X	-	-	-	X	-
13 Feb 1983	-	-	-	X	-	X	-	-
15 Feb 1983	-	-	-	-	-	X	-	-
16 Feb 1983	-	X	-	-	X	-	-	-
18 Feb 1983	X	-	-	-	-	X	-	-
23 Feb 1983	X	-	-	X	X	-	-	X
24 Feb 1983	-	-	-	-	-	X	-	-
25 Feb 1983	-	X	-	-	X	-	X	X
26 Feb 1983	X	-	X	X	-	-	-	-
2 Mar 1983	-	-	-	X	-	X	-	-
4 Mar 1983	-	X	-	-	-	X	-	-
6 Mar 1983	-	-	-	-	-	X	X	-
7 Mar 1983	-	-	-	-	-	-	-	-
8 Mar 1983	X	-	-	-	X	X	X	-
9 Mar 1983	-	-	-	-	X	X	-	X
10 Mar 1983	X	-	-	-	X	-	-	-
11 Mar 1983	-	X	X	-	X	X	X	-

SAMPLES AVAILABLE (CONT.)

3/

	W h i t e f a c e	I t h a c a	P e n n S t a t e	V l r g i n i a	I l l i n o i s	B r o o k h a v e n	L e w e s	O x f o r d	O a k R i d g e
12 Mar 1983	-	-	-	X	-	X	-	-	-
13 Mar 1983	X	-	-	-	-	-	X	-	-
15 Mar 1983	-	-	-	-	-	-	X	-	X
16 Mar 1983	X	X	-	-	-	-	-	-	-
18 Mar 1983	-	-	-	-	X	-	-	X	-
19 Mar 1983	-	-	-	-	-	X	X	-	-
20 Mar 1983	X	-	X	X	-	-	-	-	-
21 Mar 1983	-	X	-	X	-	-	-	X	X
22 Mar 1983	X	X	X	-	X	X	X	X	-
27 Mar 1983	-	-	-	-	-	-	-	X	-
28 Mar 1983	X	-	X	X	X	X	X	X	-
29 Mar 1983	-	X	X	-	X	-	-	-	X
30 Mar 1983	X	-	-	-	-	-	-	-	-
31 Mar 1983	-	-	-	-	X	-	-	-	X
1 Apr 1983	-	-	X	X	X	-	X	-	-
2 Apr 1983	-	-	-	-	-	-	-	X	-
3 Apr 1983	-	-	-	X	-	-	X	-	-
4 Apr 1983	X	X	X	-	X	X	-	X	X
5 Apr 1983	X	-	-	-	X	-	-	-	-
6 Apr 1983	-	-	-	-	X	-	-	X	-
7 Apr 1983	-	-	-	-	X	-	-	X	X
8 Apr 1983	X	X	-	-	-	X	-	X	-
9 Apr 1983	-	-	-	-	-	X	X	-	-
10 Apr 1983	-	-	X	-	-	X	-	X	-
11 Apr 1983	-	X	-	X	-	X	-	X	X
12 Apr 1983	X	X	X	-	X	-	X	-	-
13 Apr 1983	X	-	-	-	X	-	-	X	-
14 Apr 1983	-	-	-	-	X	-	-	X	-
15 Apr 1983	-	-	-	-	X	-	-	-	X
16 Apr 1983	X	-	X	X	-	-	-	-	-
17 Apr 1983	-	X	-	-	-	X	X	X	-
18 Apr 1983	X	-	-	-	X	-	X	-	-
19 Apr 1983	X	-	-	-	-	-	-	-	X
20 Apr 1983	-	X	X	-	-	X	X	-	-
21 Apr 1983	X	X	-	-	-	-	-	-	-
22 Apr 1983	X	-	-	-	-	-	-	-	-
24 Apr 1983	-	-	-	-	-	-	-	X	-
25 Apr 1983	X	-	X	X	-	X	-	-	X
26 Apr 1983	X	X	X	-	-	X	X	-	-
27 Apr 1983	X	-	-	-	-	-	-	-	-
28 Apr 1983	X	-	-	-	X	-	-	X	-
29 Apr 1983	X	-	-	-	-	-	-	-	-
1 May 1983	X	-	-	-	-	-	-	X	-
2 May 1983	X	X	-	-	X	-	-	X	X
3 May 1983	X	-	-	-	X	-	-	X	-
4 May 1983	X	X	X	X	-	X	X	X	X
5 May 1983	X	-	-	-	-	-	-	X	-
6 May 1983	-	-	-	-	X	-	-	-	-

SAMPLES AVAILABLE (CONT.)

4/

	W h i t e f a c e	P e n n s y l v a n i a	V i r g i n i a	I l l i n o i s	B r o o k h a v e n	L e w e s	O x f o r d	O a k R i d g e
8 May 1983	-	-	-	-	-	-	X	-
9 May 1983	-	X	X	X	X	-	-	X
10 May 1983	X	-	-	-	-	-	-	-
11 May 1983	X	-	-	-	-	-	-	-
15 May 1983	-	-	X	-	-	-	X	-
16 May 1983	X	X	-	-	-	-	-	X
17 May 1983	-	-	X	X	X	X	-	-
19 May 1983	-	-	-	-	X	-	X	X
20 May 1983	X	X	X	-	-	X	-	-
21 May 1983	-	-	-	-	-	X	-	-
22 May 1983	-	-	-	-	-	-	X	-
23 May 1983	X	X	X	X	X	X	-	X
24 May 1983	X	-	X	-	-	-	-	X
25 May 1983	X	-	-	-	X	-	X	-
26 May 1983	X	X	-	-	-	-	X	-
27 May 1983	X	-	-	X	-	X	-	-
28 May 1983	X	-	-	-	-	-	X	-
30 May 1983	X	-	X	X	X	-	X	-
31 May 1983	X	X	-	-	X	X	-	X
1 Jun 1983	X	X	X	-	-	X	-	-
2 Jun 1983	-	-	X	-	X	-	X	-
3 Jun 1983	-	-	-	-	-	-	-	-
4 Jun 1983	-	-	X	X	-	X	-	-
5 Jun 1983	X	-	-	-	-	-	-	-
6 Jun 1983	-	X	-	-	X	-	X	X
7 Jun 1983	X	X	X	-	-	X	-	X
8 Jun 1983	-	-	-	-	-	X	-	-
11 Jun 1983	X	-	-	-	-	-	-	-
14 Jun 1983	-	-	X	-	-	-	-	-
15 Jun 1983	-	-	-	-	X	-	-	-
16 Jun 1983	-	-	-	-	-	X	-	-
17 Jun 1983	X	X	X	-	-	-	-	-
18 Jun 1983	-	X	-	-	-	-	-	-
19 Jun 1983	X	-	X	-	-	X	X	-
20 Jun 1983	-	-	-	-	X	-	X	-
21 Jun 1983	-	-	X	-	-	X	-	X
22 Jun 1983	-	-	-	X	-	X	-	-
23 Jun 1983	-	-	-	-	-	-	-	X
25 Jun 1983	X	-	-	-	-	-	-	-
26 Jun 1983	X	-	-	-	-	-	-	-
27 Jun 1983	X	-	-	-	-	-	-	-
28 Jun 1983	X	-	-	-	X	-	X	X
29 Jun 1983	-	X	X	-	X	X	-	-
30 Jun 1983	-	-	-	-	X	-	X	-
1 Jul 1983	-	-	-	X	-	-	X	-
2 Jul 1983	-	-	-	X	-	-	-	-
3 Jul 1983	X	-	-	-	-	-	-	-
5 Jul 1983	-	-	-	X	X	-	X	X

SAMPLES AVAILABLE (CONT.)

5/

	W h i t e f a c e	P e n n s y l v a n i a	V i r g i n i a	I l l i n o i s	B r o o k h a v e n	L e w e s	O x f o r d	O a k R i d g e
6 Jul 1983	-	X	-	X	-	X	-	-
7 Jul 1983	X	-	-	-	-	X	-	-
9 Jul 1983	X	-	-	-	-	-	-	-
11 Jul 1983	-	X	-	-	-	-	-	-
12 Jul 1983	X	-	-	-	-	-	-	-
13 Jul 1983	-	-	-	-	-	-	X	-
15 Jul 1983	X	-	-	-	-	-	-	-
18 Jul 1983	-	-	X	-	-	-	X	-
19 Jul 1983	-	X	-	-	-	X	X	X
20 Jul 1983	-	-	X	X	-	X	X	X
21 Jul 1983	-	-	X	X	-	-	-	X
22 Jul 1983	X	X	X	X	-	X	-	-
24 Jul 1983	X	-	X	-	-	X	-	-
25 Jul 1983	-	X	-	X	X	-	X	X
29 Jul 1983	-	-	-	-	X	-	-	-
30 Jul 1983	X	-	-	-	-	-	-	-
31 Jul 1983	-	-	-	-	X	-	-	-
1 Aug 1983	X	X	-	-	X	-	X	-
2 Aug 1983	X	-	X	-	-	X	-	X
3 Aug 1983	X	X	-	X	-	-	-	-
5 Aug 1983	X	-	X	X	X	-	-	-
6 Aug 1983	X	-	-	X	-	-	X	-
7 Aug 1983	-	-	-	X	-	-	-	-
8 Aug 1983	X	X	-	-	-	-	X	X
9 Aug 1983	X	X	X	-	-	-	-	X
10 Aug 1983	-	-	-	X	-	X	-	-
11 Aug 1983	-	-	-	-	X	-	X	-
12 Aug 1983	X	X	X	X	-	X	-	X
13 Aug 1983	-	-	-	-	-	X	-	-
14 Aug 1983	-	-	-	-	-	-	-	-
17 Aug 1983	-	-	-	-	X	-	-	-
18 Aug 1983	-	X	X	X	-	-	X	-
20 Aug 1983	X	-	-	-	-	-	-	-
22 Aug 1983	-	-	X	-	-	-	-	-
23 Aug 1983	X	X	-	-	X	-	X	-
24 Aug 1983	-	-	-	X	-	-	-	-
26 Aug 1983	-	-	-	-	X	-	-	-
27 Aug 1983	-	-	-	-	-	-	X	-
28 Aug 1983	X	-	X	-	-	-	-	-
29 Aug 1983	-	X	X	X	X	X	X	-
30 Aug 1983	-	-	-	-	-	X	-	-
31 Aug 1983	X	X	-	-	-	-	-	-
1 Sep 1983	X	-	X	X	X	X	-	-
6 Sep 1983	-	-	X	-	X	-	-	X
7 Sep 1983	X	X	-	-	X	-	-	-
8 Sep 1983	X	-	-	-	-	-	-	-
12 Sep 1983	X	-	X	-	X	-	X	-
13 Sep 1983	-	-	-	-	X	-	-	-

SAMPLES AVAILABLE (CONT.)

6/

	W h i t e f a c e	P e n n s t a t e	V i r g i n i a	I l l i n o i s	B r o o k h a v e n	L e w e s	O x f o r d	O a k R i d g e
14 Sep 1983	-	-	X	X	-	-	X	-
16 Sep 1983	-	-	-	-	X	-	-	X
17 Sep 1983	-	-	X	-	-	X	-	-
18 Sep 1983	X	-	-	-	-	X	-	-
19 Sep 1983	X	X	-	-	-	-	-	-
20 Sep 1983	-	-	-	-	X	-	X	-
21 Sep 1983	-	-	-	-	X	-	X	-
22 Sep 1983	X	X	X	X	-	X	-	X
23 Sep 1983	X	-	-	-	-	-	X	-
26 Sep 1983	-	X	-	-	X	-	-	-
27 Sep 1983	X	-	-	-	-	-	-	-
1 Oct 1983	-	-	X	X	-	X	-	-
2 Oct 1983	-	-	-	-	-	X	-	-
3 Oct 1983	-	-	-	-	-	X	-	-
4 Oct 1983	-	-	-	-	-	-	X	-
5 Oct 1983	-	-	-	-	-	-	X	-
6 Oct 1983	X	X	X	-	-	X	-	X
7 Oct 1983	X	X	-	-	-	-	-	-
9 Oct 1983	X	-	-	-	-	-	-	-
10 Oct 1983	-	-	-	-	X	-	-	-
12 Oct 1983	-	-	-	X	X	-	-	-
13 Oct 1983	X	X	X	-	X	-	X	-
14 Oct 1983	X	X	X	X	X	X	-	X
16 Oct 1983	-	-	-	-	-	-	X	-
17 Oct 1983	X	-	-	-	X	-	-	-
18 Oct 1983	-	-	-	-	X	-	-	-
19 Oct 1983	-	-	X	-	-	X	-	-
21 Oct 1983	-	X	-	-	-	X	-	-
22 Oct 1983	-	-	-	X	-	-	-	-
23 Oct 1983	-	-	-	-	-	-	X	-
24 Oct 1983	X	X	X	X	X	-	X	-
25 Oct 1983	-	-	X	X	-	-	-	X
26 Oct 1983	-	-	X	-	-	X	-	-
27 Oct 1983	-	X	-	-	-	-	-	-
28 Oct 1983	X	-	-	-	-	-	-	-
30 Oct 1983	-	-	X	-	-	-	-	-
31 Oct 1983	X	-	-	-	X	-	-	-
3 Nov 1983	-	-	-	-	X	-	X	-
4 Nov 1983	X	X	X	-	-	X	X	X
7 Nov 1983	X	X	X	-	X	-	-	-
11 Nov 1983	-	-	X	X	X	-	-	X
12 Nov 1983	-	-	-	-	-	X	X	-
13 Nov 1983	X	X	X	-	-	-	-	-
14 Nov 1983	-	-	-	-	X	-	-	-
15 Nov 1983	-	-	-	-	X	-	-	X
16 Nov 1983	-	X	X	X	X	X	X	-
17 Nov 1983	-	-	-	-	-	X	-	-
18 Nov 1983	X	-	X	-	-	-	-	-

SAMPLES AVAILABLE (CONT.)

7/

	W h i t e f a c e	P e n n s t a t e	V i r g i n i a	I l l i n o i s	B r o o k h a v e n	L e w e s	O x f o r d	O a k R i d g e
19 Nov 1983	-	X	X	-	-	-	-	-
20 Nov 1983	-	-	-	-	-	-	X	-
21 Nov 1983	X	X	X	X	X	X	-	X
23 Nov 1983	-	-	-	-	X	-	-	-
25 Nov 1983	-	-	X	-	-	X	X	-
26 Nov 1983	-	-	-	X	-	-	-	-
27 Nov 1983	-	X	X	-	-	-	-	-
28 Nov 1983	X	-	-	-	X	X	-	X
29 Nov 1983	X	X	X	X	-	X	-	-
1 Dec 1983	X	-	-	-	-	-	-	-
2 Dec 1983	-	-	-	-	X	-	-	-
3 Dec 1983	-	-	X	-	-	-	X	-
4 Dec 1983	-	-	-	X	-	X	X	-
5 Dec 1983	X	X	X	-	X	X	-	X
7 Dec 1983	-	-	X	-	X	X	X	X
8 Dec 1983	X	X	-	-	X	-	X	-
9 Dec 1983	-	-	-	-	X	-	-	-
10 Dec 1983	-	-	X	-	-	-	-	-
12 Dec 1983	-	-	-	-	X	-	X	-
13 Dec 1983	-	-	-	X	X	-	-	X
14 Dec 1983	-	X	X	-	-	X	-	-
15 Dec 1983	X	-	-	-	-	X	X	X
16 Dec 1983	-	-	-	-	X	X	-	-
17 Dec 1983	-	-	X	-	-	-	-	-
19 Dec 1983	X	-	-	-	-	-	-	-
20 Dec 1983	-	X	-	-	-	-	-	-
22 Dec 1983	-	-	-	X	X	-	X	-
23 Dec 1983	-	-	X	-	-	X	-	-
24 Dec 1983	-	-	X	-	-	-	-	-
25 Dec 1983	-	X	-	-	-	-	-	-
27 Dec 1983	X	-	-	-	X	-	-	-
29 Dec 1983	X	-	X	-	X	X	X	X

TABLE 2. Chemistry Data for 1983

8/

	T I M E	L I D	A R R	B A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
	Z		MO. DA	ML	ML	C			
1 Jan 1983 # Whiteface	2300	NAP	ISA	11.0	16.0	ISA	ISA	ISA	ISA
# Brookhaven	1800	1	1.06	160.0	160.0	24.	4.10	3.98	39.0
3 Jan 1983 # Whiteface	1400	NAP	1.17	71.0	65.0	20.	4.21	4.10	34.0
# Virginia	2130	2	1.12	113.0	81.0	21.	4.07	4.05	40.0
# Oak Ridge	1600	8	2.17	585.0	550.0	20.	4.16	4.20	27.0
4 Jan 1983 # Whiteface	1900	NAP	ISA	11.0	16.0	ISA	ISA	ISA	ISA
# Illinois	1900	13	1.12	1732.0	1710.0	25.	4.47	4.44	16.0
6 Jan 1983 # Lewes	1300	NAP	1.17	392.0	360.0	24.	4.58	4.52	20.0
7 Jan 1983 # Brookhaven	1500	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC
8 Jan 1983 # Whiteface	2300	NAP	1.17	152.0	240.0	20.	4.09	4.00	40.0
10 Jan 1983 # Illinois	1630	9	2.11	39.0	ISA	25.	3.99	3.83	75.0
# Oxford	1500	4	ISA	20.0	33.0	14.	4.04	ISA	ISA
# Oak Ridge	1500	2	2.17	779.0	750.0	14.	4.25	4.23	25.0
11 Jan 1983 # Ithaca	2000	NAP	2.07	730.0	790.0	23.	4.47	4.41	19.0
# Virginia	200	5	RPC	RPC	810.0	RPC	RPC	RPC	RPC
# Illinois	1530	3	ISA	5.7	ISA	25.	4.90	ISA	ISA
# Brookhaven	1400	13	1.28	1580.0	1670.0	24.	4.78	4.83	19.0
# Lewes	1900	NAP	1.17	1874.0	1870.0	20.	5.14	5.29	16.0
# Oxford	1800	1	2.08	51.0	33.0	14.	4.15	ISA	ISA
# Oak Ridge	1600	4	2.17	205.0	210.0	20.	4.08	4.07	30.0
12 Jan 1983 # Whiteface	1430	NAP	2.15	559.0	585.0	19.	4.74	4.68	8.4
# Penn State	2130	NAP	2.08	718.0	580.0	25.	4.15	4.27	23.0
# Illinois	1530	1	ISA	2.9	ISA	25.	5.75	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

9/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
	Z		MO.DA	ML	ML	C			
12 Jan 1983 # Lewes	1900	33	2.14	150.0	110.0	19.	3.98	3.87	68.0
13 Jan 1983 # Whiteface	1400	NAP	ISA	12.0	16.0	20.	4.30	ISA	ISA
# Ithaca	1300	NAP	2.07	80.0	115.0	22.	4.55	4.53	16.0
14 Jan 1983 # Oak Ridge	1830	2	2.17	185.0	195.0	20.	4.66	4.66	16.0
15 Jan 1983 # Oxford	1430	7	2.08	42.0	49.0	11.	4.54	ISA	ISA
16 Jan 1983 # Penn State	1830	NAP	2.08	846.0	680.0	25.	3.92	3.97	43.0
# Brookhaven	1900	12	1.28	2210.0	2160.0	24.	4.60	4.66	16.0
# Lewes	2300	NAP	2.14	659.0	440.0	18.	4.15	4.21	26.0
17 Jan 1983 # Whiteface	1500	NAP	2.15	570.0	520.0	21.	4.91	4.83	6.9
# Ithaca	1800	NAP	2.07	1390.0	1730.0	24.	4.38	4.31	20.0
20 Jan 1983 # Ithaca	2100	NAP	2.07	280.0	330.0	25.	4.60	4.63	16.0
22 Jan 1983 # Oxford	2230	7	2.08	2721.0	2600.0	11.	4.55	4.33	22.0
24 Jan 1983 # Ithaca	1400	NAP	2.07	750.0	740.0	23.	4.30	4.26	20.0
# Penn State	1500	NAP	2.08	600.0	410.0	25.	4.26	4.21	26.0
# Virginia	2300	8	2.14	1327.0	1190.0	22.	4.30	4.21	24.0
# Illinois	1530	NAP	2.11	838.0	860.0	25.	4.20	4.09	32.0
# Brookhaven	1500	9	1.28	1412.0	1410.0	26.	5.01	5.17	0.4
# Lewes	1700	NAP	2.14	977.0	810.0	20.	4.02	5.06	9.9
# Oxford	1430	23	2.08	95.0	98.0	7.	4.16	4.15	36.0
# Oak Ridge	1630	5	2.17	760.0	715.0	19.	4.79	4.95	14.0
25 Jan 1983 # Whiteface	1330	NAP	2.15	584.0	1410.0	19.	5.18	5.09	4.2
26 Jan 1983 # Whiteface	1400	NAP	2.15	137.0	230.0	19.	4.30	4.18	29.0
27 Jan 1983 # Ithaca	2300	NAP	2.07	90.0	77.0	23.	4.15	4.17	37.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

10/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO,DA	ML	ML	C			
27 Jan 1983	# Illinois	1530	6	ISA	0.7	ISA	ISA	ISA	ISA	ISA
30 Jan 1983	# Oxford	1900	10	2.08	167.0	150.0	12.	3.72	4.15	35.0
31 Jan 1983	# Penn State	1030	NAP	2.08	459.0	360.0	25.	4.03	4.05	40.0
	# Virginia	2200	4	ISA	62.0	33.0	22.	3.86	ISA	ISA
	# Illinois	1700	7	2.11	140.0	150.0	25.	4.37	4.30	28.0
	# Brookhaven	1600	1	2.16	618.0	570.0	27.	4.46	4.42	18.0
	# Lewes	1530	NAP	ISA	12.0	33.0	22.	4.14	ISA	ISA
	# Oak Ridge	1530	4	2.17	347.0	325.0	13.	4.17	4.14	31.0
1 Feb 1983	# Whiteface	1400	NAP	2.15	227.0	230.0	19.	4.13	4.07	33.0
	# Ithaca	1300	NAP	2.07	185.0	220.0	23.	3.82	3.79	60.0
2 Feb 1983	# Illinois	1530	1	3.08	1191.0	1200.0	25.	4.32	4.32	25.0
	# Oxford	1800	5	2.00	982.0	960.0	16.	3.73	4.18	30.0
	# Oak Ridge	1930	5	2.17	2964.0	2760.0	18.	4.41	4.41	19.0
3 Feb 1983	# Whiteface	1730	NAP	2.15	1140.0	1100.0	20.	4.79	4.77	7.3
	# Penn State	1430	NAP	2.08	1964.0	1720.0	25.	4.24	4.24	23.0
	# Virginia	1900	3	2.14	2343.0	2280.0	22.	4.19	4.12	33.0
	# Illinois	1700	2	ISA	13.0	ISA	25.	4.17	ISA	ISA
	# Brookhaven	1800	13	2.16	1867.0	1970.0	27.	4.75	4.99	11.0
	# Lewes	1600	NAP	2.14	485.0	420.0	23.	4.99	5.23	9.1
4 Feb 1983	# Whiteface	2030	NAP	2.15	165.0	160.0	20.	4.57	4.52	15.0
	# Ithaca	1300	NAP	3.03	1620.0	1600.0	23.	4.32	4.37	22.0
	# Brookhaven	1400	5	ISA	31.0	49.0	27.	3.82	ISA	ISA
	# Oxford	2200	11	ISA	33.0	33.0	10.	3.85	ISA	ISA

MAP35 PRECIPITATION CHEMISTRY DATA (CONT.)

11/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
5 Feb 1983	# Penn State	2100	NAP	ISA	ISA	17.0	ISA	ISA	ISA	ISA
7 Feb 1983	# Whiteface	1330	NAP	ISA	14.0	16.0	20.	4.59	ISA	ISA
	# Virginia	2130	1	2.14	826.0	750.0	20.	4.60	4.58	11.0
	# Illinois	1700	5	3.00	155.0	170.0	25.	4.29	4.30	26.0
	# Brookhaven	2000	23	2.16	974.0	1300.0	24.	4.94	5.06	7.1
	# Lewes	2330	NAP	3.10	1590.0	1510.0	20.	4.77	4.90	23.0
	# Oxford	1500	14	3.11	75.0	80.0	11.	3.87	4.44	23.0
8 Feb 1983	# Ithaca	2100	NAP	3.03	785.0	1000.0	23.	4.45	4.52	18.0
	# Penn State	1430	NAP	3.17	211.0	85.0	25.	4.15	4.13	37.0
	# Oak Ridge	1600	280	3.17	1149.0	1100.0	12.	4.55	4.64	14.0
9 Feb 1983	# Whiteface	1400	NAP	2.15	717.0	600.0	22.	5.37	5.18	3.2
	# Illinois	1700	2	ISA	2.0	ISA	ISA	ISA	ISA	ISA
11 Feb 1983	# Oak Ridge	1800	6	3.17	1967.0	1840.0	17.	4.25	4.26	29.0
12 Feb 1983	# Penn State	1800	NAP	3.17	1172.0	1230.0	25.	5.14	4.97	5.7
	# Oxford	1400	8	ISA	31.0	90.0	18.	3.72	ISA	ISA
13 Feb 1983	# Virginia	2330	7	3.14	1814.0	MOE	22.	4.47	4.57	14.0
	# Brookhaven	1900	9	3.04	188.0	2440.0	28.	5.00	5.12	10.0
	# Lewes	2200	ISA	3.10	1370.0	940.0	20.	4.85	5.14	130.0
15 Feb 1983	# Lewes	1300	NAP	3.10	49.0	49.0	22.	4.35	ISA	ISA
16 Feb 1983	# Ithaca	2000	NAP	3.03	30.0	NAP	22.	4.33	4.42	29.0
	# Illinois	1530	2	ISA	16.0	ISA	25.	3.66	ISA	ISA
18 Feb 1983	# Whiteface	1430	NAP	ISA	36.0	ISA	20.	3.27	ISA	ISA
	# Brookhaven	1500	1	3.04	1004.0	800.0	20.	4.23	4.35	24.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

12/

	T I M E	L I D	A R R	S A M P	P R E D	P I E L D	P I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
	Z		MO.DA	ML	ML	C			
18 Feb 1983 # Lewes	1500	NAP	3.10	77.0	81.0	21.	3.77	3.86	76.0
23 Feb 1983 # Whiteface	2100	NAP	3.22	328.0	150.0	20.	3.48	3.53	160.0
# Virginia	2230	6	3.14	556.0	500.0	24.	4.36	4.50	20.0
# Illinois	1630	3	ISA	6.0	ISA	25.	4.37	ISA	ISA
# Oak Ridge	1630	3	3.17	980.0	910.0	20.	4.25	4.37	22.0
24 Feb 1983 # Brookhaven	1800	7	3.04	294.0	NAP	20.	4.44	4.55	22.0
# Lewes	300	NAP	3.10	1360.0	1190.0	21.	4.03	5.01	6.0
25 Feb 1983 # Ithaca	2100	NAP	3.03	156.0	270.0	21.	4.15	4.20	37.0
# Illinois	1600	3	ISA	120.0	ISA	25.	5.55	ISA	ISA
# Oxford	2200	2	ISA	16.0	16.0	0.	4.31	ISA	ISA
# Oak Ridge	2000	4	3.17	362.0	340.0	15.	3.07	3.92	63.0
26 Feb 1983 # Whiteface	1530	NAP	3.22	211.0	81.0	20.	4.47	4.49	27.0
# Penn State	1900	NAP	3.17	101.0	51.0	25.	3.89	4.01	51.0
# Virginia	1900	11	3.14	650.0	650.0	22.	3.89	3.94	50.0
2 Mar 1983 # Virginia	1600	8	3.14	112.0	150.0	23.	4.45	ISA	ISA
# Brookhaven	1900	5	3.15	1240.0	1180.0	27.	4.39	4.40	23.0
# Lewes	1430	NAP	3.10	1775.0	1770.0	22.	4.38	4.47	30.0
4 Mar 1983 # Ithaca	2100	NAP	4.07	38.0	38.0	20.	3.60	3.66	140.0
# Brookhaven	2030	4	3.15	65.0	65.0	26.	3.61	3.62	ISA
6 Mar 1983 # Brookhaven	1700	2	3.15	85.0	65.0	26.	3.51	3.53	170.0
# Oxford	1930	3	3.11	499.0	374.0	20.	4.59	4.68	16.0
7 Mar 1983 # Oxford	1430	4	4.07	255.0	195.0	17.	4.46	4.55	25.0
8 Mar 1983 # Whiteface	1600	NAP	3.22	181.0	110.0	20.	4.31	4.40	22.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

13/

		T I M E		L I D		A R R		S A M P		P R E D		F I E L D		F I E L D		L A B		C O N D U C T	
		R M V D		O P E N		D A T E		V O L		V O L		P H		P H		P H			
		Z				MO.DA		ML		ML		C						UMHO/CM	
8 Mar 1983	# Illinois	1600		7		4.11		597.0		540.0		25.		4.43		4.44		22.0	
	# Brookhaven	2000		14		3.15		2534.0		2390.0		26.		4.67		4.74		11.0	
	# Oxford	1430		2		4.07		775.0		720.0		16.		4.15		4.16		38.0	
9 Mar 1983	# Illinois	1530		7		ISA		3.0		ISA		ISA		ISA		ISA		ISA	
	# Brookhaven	1600		7		3.15		1887.0		1710.0		26.		4.77		4.81		10.0	
	# Oak Ridge	1430		53		3.17		1104.0		1010.0		10.		5.80		5.79		7.1	
10 Mar 1983	# Whiteface	1500		NAP		3.22		463.0		360.0		20.		5.20		4.99		6.2	
	# Illinois	1630		8		ISA		13.0		ISA		25.		4.27		ISA		ISA	
11 Mar 1983	# Ithaca	2000		NAP		4.07		340.0		1300.0		20.		3.94		4.00		58.0	
	# Penn State	1800		NAP		3.17		1341.0		1060.0		25.		3.93		4.18		34.0	
	# Illinois	1630		1		ISA		4.0		ISA		ISA		ISA		ISA		ISA	
	# Brookhaven	2030		2		3.24		636.0		1300.0		27.		4.49		4.56		16.0	
	# Lewes	2130		NAP		4.01		1669.0		1640.0		22.		3.77		4.43		37.0	
	# Oxford	1700		6		ISA		16.0		16.0		6.		4.53		ISA		ISA	
12 Mar 1983	# Virginia	1730		13		4.08		1585.0		2440.0		23.		4.32		4.30		27.0	
	# Brookhaven	2300		8		3.24		2094.0		975.0		27.		4.58		4.60		19.0	
13 Mar 1983	# Whiteface	2030		NAP		4.05		749.0		1070.0		20.		4.87		5.02		5.6	
	# Lewes	2200		NAP		4.01		902.0		830.0		22.		4.36		4.42		41.0	
15 Mar 1983	# Lewes	2100		NAP		ISA		17.0		ISA		20.		3.74		ISA		ISA	
	# Oak Ridge	1530		10		4.12		63.0		81.0		11.		3.89		3.89		ISA	
16 Mar 1983	# Whiteface	1500		NAP		ISA		6.0		ISA		ISA		ISA		ISA		ISA	
	# Ithaca	2000		NAP		4.07		65.0		130.0		20.		3.97		4.04		59.0	
18 Mar 1983	# Illinois	1700		NAP		4.11		998.0		980.0		25.		4.48		4.46		21.0	

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

14/

		TIME	LID	ARR	SAMP	PREC	FIELD	FIELD	LAB	COND
		RMV	OPEN	DAT	VOL	VOL	PH	PH	PH	UMHO/CM
		Z		NO.DA	ML	ML	C			
18 Mar 1983	# Oxford	2000	16	4.07	492.0	540.0	17.	4.33	4.21	31.0
19 Mar 1983	# Brookhaven	2030	20	3.24	2630.0	2570.0	26.	4.68	4.79	27.0
	# Lewes	2030	NAP	4.01	2281.0	2110.0	19.	4.74	4.90	34.0
20 Mar 1983	# Whiteface	2030	NAP	4.05	541.0	340.0	20.	4.74	4.96	8.4
	# Penn State	1600	NAP	4.11	1884.0	1570.0	25.	4.22	4.43	18.0
	# Virginia	2000	11	4.08	4300.0	4000.0	22.	4.55	4.51	16.0
21 Mar 1983	# Ithaca	1300	NAP	4.07	910.0	880.0	20.	4.30	4.35	24.0
	# Virginia	2300	3	4.08	566.0	520.0	23.	4.54	4.59	17.0
	# Oxford	1430	6	4.07	1701.0	1625.0	14.	4.18	4.10	43.0
	# Oak Rldge	2000	21	4.12	1646.0	1560.0	11.	4.45	4.50	17.0
22 Mar 1983	# Whiteface	1900	NAP	4.05	739.0	650.0	19.	4.49	4.57	15.0
	# Ithaca	1700	NAP	4.07	600.0	710.0	23.	4.22	4.24	30.0
	# Penn State	1430	NAP	4.11	1715.0	1450.0	25.	4.31	4.30	25.0
	# Illinois	1600	25	4.11	741.0	970.0	25.	4.39	4.35	23.0
	# Brookhaven	1400	10	4.07	964.0	1070.0	26.	4.09	4.14	44.0
	# Lewes	1400	NAP	4.01	1457.0	1200.0	19.	4.28	4.45	33.0
	# Oxford	2300	1	ISA	8.0	16.0	14.	4.26	ISA	ISA
27 Mar 1983	# Oxford	1800	7	4.07	152.0	165.0	16.	4.18	4.21	35.0
28 Mar 1983	# Whiteface	1400	NAP	4.05	454.0	420.0	19.	4.75	4.82	0.0
	# Penn State	1700	NAP	4.11	1964.0	1880.0	25.	4.48	4.59	13.0
	# Virginia	2200	5	4.08	2400.0	2290.0	24.	4.55	4.56	15.0
	# Illinois	1630	19	4.11	581.0	590.0	25.	4.26	4.25	33.0
	# Brookhaven	1300	4	4.07	1876.0	1930.0	25.	4.68	4.75	10.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

15/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
	Z		MO.DA	ML	ML	C			
28 Mar 1983 # Lewes	1400	NAP	4.01	2130.0	1980.0	21.	4.62	4.68	27.0
# Oxford	2000	11	4.07	531.0	550.0	16.	5.27	4.95	15.0
29 Mar 1983 # Ithaca	2100	NAP	4.07	961.0	1100.0	23.	4.32	4.34	23.0
# Penn State	1430	NAP	4.11	105.0	68.0	25.	3.78	3.88	65.0
# Illinois	1730	4	ISA	4.9	ISA	25.	6.16	ISA	ISA
# Oak Ridge	1500	8	4.12	1091.0	910.0	20.	4.25	4.66	12.0
30 Mar 1983 # Whiteface	1830	NAP	4.20	238.0	240.0	20.	4.38	4.43	20.0
31 Mar 1983 # Illinois	1600	27	4.11	41.0	ISA	25.	3.70	3.71	ISA
# Oak Ridge	1930	2	4.12	117.0	110.0	20.	3.96	4.00	52.0
1 Apr 1983 # Penn State	1830	NAP	4.11	53.0	17.0	25.	3.52	ISA	ISA
# Virginia	1600	1	4.08	129.0	160.0	24.	3.72	ISA	ISA
# Illinois	1500	NAP	ISA	7.7	ISA	25.	3.69	ISA	ISA
# Lewes	1700	NAP	5.11	204.0	150.0	20.	4.10	4.15	32.0
2 Apr 1983 # Oxford	2000	15	4.07	900.0	910.0	17.	4.34	4.21	32.0
3 Apr 1983 # Virginia	430	4	4.08	5280.0	4840.0	24.	4.38	4.39	23.0
# Lewes	2400	NAP	5.11	2159.0	2000.0	22.	4.62	4.74	27.0
4 Apr 1983 # Whiteface	1400	NAP	4.20	593.0	390.0	20.	4.40	4.42	18.0
# Ithaca	1400	NAP	4.07	585.0	570.0	22.	4.28	4.34	23.0
# Penn State	1600	NAP	4.11	1752.0	1540.0	25.	3.98	4.38	21.0
# Illinois	1530	30	5.19	1483.0	1620.0	25.	4.26	4.22	32.0
# Brookhaven	1330	4	4.07	2140.0	2080.0	24.	4.37	4.44	30.0
# Oxford	1430	9	5.06	215.0	260.0	15.	4.41	4.25	29.0
# Oak Ridge	1530	16	4.12	1013.0	1010.0	20.	4.44	4.55	17.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

16/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
5 Apr 1983	# Whiteface	1400	NAP	4.20	134.0	195.0	18.	3.91	3.95	55.0
	# Illinois	1600	8	5.19	53.0	20.0	25.	6.27	6.56	42.0
6 Apr 1983	# Illinois	1600	5	5.19	299.0	326.0	25.	4.04	4.03	46.0
	# Oxford	2000	9	5.06	175.0	200.0	21.	4.04	3.92	62.0
7 Apr 1983	# Illinois	1600	12	5.19	325.0	290.0	25.	3.91	3.88	63.0
	# Oxford	2100	7	5.06	169.0	230.0	18.	5.31	7.19	71.0
	# Oak Ridge	1430	4	5.12	5774.0	5690.0	19.	4.76	4.81	7.9
8 Apr 1983	# Whiteface	1600	NAP	4.20	509.0	439.0	10.	4.15	4.13	35.0
	# Ithaca	1300	NAP	5.05	665.0	700.0	21.	4.05	4.10	39.0
	# Brookhaven	1500	12	4.21	531.0	585.0	24.	4.18	4.26	31.0
	# Oxford	2200	2	5.06	1695.0	1625.0	15.	4.70	4.46	14.0
9 Apr 1983	# Brookhaven	2330	6	4.21	1050.0	1010.0	24.	4.02	4.08	42.0
	# Lewes	2100	NAP	5.11	567.0	470.0	22.	4.04	4.15	36.0
10 Apr 1983	# Penn State	1900	NAP	5.09	3114.0	1770.0	25.	3.99	4.04	41.0
	# Brookhaven	2300	7	4.21	4476.0	4190.0	24.	4.04	4.94	9.1
	# Oxford	1630	11	5.06	676.0	680.0	15.	4.44	5.16	20.0
11 Apr 1983	# Ithaca	1300	NAP	5.05	815.0	830.0	21.	4.57	4.64	11.0
	# Virginia	1630	20	5.10	4793.0	4550.0	24.	4.33	4.33	21.0
	# Brookhaven	1400	6	4.21	500.0	540.0	24.	5.54	5.51	6.4
	# Oxford	2100	5	5.06	164.0	180.0	16.	4.34	4.29	25.0
	# Oak Ridge	1400	11	5.12	2252.0	2200.0	21.	4.59	4.61	14.0
12 Apr 1983	# Whiteface	1300	NAP	4.20	1785.0	1200.0	18.	4.80	4.78	9.2
	# Ithaca	2100	NAP	5.05	415.0	420.0	21.	3.91	3.90	65.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

17/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
12 Apr 1983	# Penn State	1400	NAP	5.09	355.0	100.0	25.	3.89	3.85	61.0
	# Illinois	1600	21	5.19	511.0	510.0	25.	4.17	4.20	39.0
	# Lewes	1730	NAP	5.11	2711.0	2620.0	23.	4.44	4.52	20.0
13 Apr 1983	# Whiteface	1400	NAP	4.20	87.0	65.0	18.	4.66	4.66	11.0
	# Illinois	1700	17	5.19	772.0	800.0	25.	4.29	4.41	33.0
	# Oxford	2000	8	5.06	381.0	390.0	19.	4.18	4.19	34.0
14 Apr 1983	# Illinois	1630	2	5.19	1675.0	1790.0	25.	4.29	4.30	23.0
	# Oxford	2100	16	5.06	1354.0	1510.0	20.	4.21	4.20	31.0
15 Apr 1983	# Illinois	1730	9	ISA	3.0	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	1530	10	5.12	60.0	49.0	15.	4.49	5.17	29.0
16 Apr 1983	# Whiteface	1630	NAP	5.06	402.0	370.0	19.	4.15	4.13	39.0
	# Penn State	1700	NAP	5.09	1224.0	840.0	25.	4.31	4.29	26.0
	# Virginia	1900	5	5.10	2482.0	2260.0	22.	4.51	4.52	16.0
17 Apr 1983	# Ithaca	300	NAP	5.05	3070.0	3100.0	21.	4.48	4.40	16.0
	# Brookhaven	1800	6	4.21	4969.0	4190.0	26.	4.95	4.90	8.2
	# Lewes	2400	NAP	5.11	5240.0	5970.0	20.	4.79	4.83	13.0
	# Oxford	2230	2	ISA	32.0	33.0	11.	4.80	ISA	ISA
18 Apr 1983	# Whiteface	1400	NAP	5.06	1231.0	975.0	19.	4.89	4.82	6.5
	# Illinois	1630	2	5.19	31.0	34.0	25.	4.30	4.46	ISA
	# Lewes	1700	NAP	ISA	22.0	16.0	20.	3.05	ISA	ISA
19 Apr 1983	# Whiteface	2100	NAP	5.06	1324.0	1020.0	17.	4.58	4.55	14.0
	# Oak Ridge	1500	2	5.12	620.0	550.0	13.	4.25	4.33	25.0
20 Apr 1983	# Ithaca	1800	NAP	5.05	560.0	1100.0	21.	4.28	4.26	30.0

MAP35 PRECIPITATION CHEMISTRY DATA (CONT.)

18/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO, DA	ML	ML	C			
20 Apr 1983	# Penn State	2000	NAP	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Brookhaven	1400	22	5.10	1768.0	1690.0	27.	4.27	4.26	33.0
	# Lewes	1730	NAP	5.11	969.0	890.0	19.	3.95	4.02	52.0
21 Apr 1983	# Whiteface	1500	NAP	5.06	676.0	680.0	17.	4.33	4.28	28.0
	# Ithaca	1500	NAP	5.05	1175.0	1180.0	21.	4.37	4.35	23.0
22 Apr 1983	# Whiteface	1400	NAP	5.06	487.0	195.0	17.	4.50	4.30	28.0
24 Apr 1983	# Oxford	2000	5	5.06	43.0	81.0	20.	3.76	ISA	ISA
25 Apr 1983	# Whiteface	1930	NAP	5.06	2126.0	1840.0	18.	4.38	4.31	22.0
	# Penn State	2000	NAP	5.09	2328.0	1520.0	25.	4.71	4.55	12.0
	# Virginia	1630	15	5.10	4133.0	3860.0	24.	4.49	4.48	15.0
	# Brookhaven	1300	14	5.10	3134.0	3010.0	27.	4.58	4.54	20.0
	# Oak Ridge	1630	18	5.12	1550.0	1400.0	20.	4.16	4.19	30.0
26 Apr 1983	# Whiteface	1400	NAP	5.06	230.0	130.0	18.	4.75	4.72	8.3
	# Ithaca	1200	NAP	5.05	2260.0	2320.0	21.	4.38	4.39	20.0
	# Penn State	1400	NAP	5.09	78.0	17.0	25.	4.10	4.00	49.0
	# Brookhaven	1700	2	ISA	20.0	81.0	26.	3.60	ISA	ISA
	# Lewes	1600	NAP	5.11	2274.0	2160.0	22.	4.54	4.59	28.0
27 Apr 1983	# Whiteface	1430	NAP	ISA	21.0	32.0	18.	4.73	ISA	ISA
28 Apr 1983	# Whiteface	1400	NAP	5.06	148.0	130.0	18.	4.95	6.28	48.0
	# Illinois	1930	MOE	5.19	638.0	2940.0	25.	4.32	4.39	27.0
	# Oxford	2030	2	5.06	251.0	310.0	23.	4.18	4.18	35.0
29 Apr 1983	# Whiteface	1400	NAP	5.06	233.0	230.0	18.	4.04	4.04	54.0
1 May 1983	# Whiteface	2400	NAP	5.06	1601.0	1460.0	17.	4.14	4.18	32.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

19/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
	Z		MO.DA	ML	ML	C			
1 May 1983 # Oxford	1700	12	5.06	NAP	7120.0	19.	4.30	4.32	23.0
2 May 1983 # Whiteface	1900	NAP	5.06	430.0	440.0	16.	4.20	4.24	29.0
# Ithaca	1200	NAP	5.05	1600.0	1630.0	23.	4.10	4.12	36.0
# Illinois	1630	MOE	5.19	2474.0	4300.0	25.	4.45	4.47	19.0
# Oxford	2100	8	6.14	1400.0	1530.0	21.	4.21	4.37	30.0
# Oak Ridge	1600	3	5.12	106.0	97.0	20.	4.08	4.41	31.0
3 May 1983 # Whiteface	1300	NAP	5.06	836.0	670.0	17.	4.55	4.62	14.0
# Illinois	1630	10	ISA	24.0	270.0	25.	3.03	ISA	ISA
# Oxford	2130	7	6.14	1458.0	1500.0	18.	4.62	4.54	14.0
4 May 1983 # Whiteface	1700	NAP	5.19	416.0	340.0	19.	4.13	4.15	34.0
# Ithaca	1800	NAP	6.09	480.0	520.0	23.	4.26	4.25	25.0
# Penn State	1400	NAP	5.09	4990.0	4860.0	25.	4.20	4.25	29.0
# Virginia	2000	6	5.10	130.0	110.0	26.	MOE	5.17	9.2
# Brookhaven	2000	7	5.10	684.0	650.0	26.	4.47	4.52	18.0
# Lewes	1530	NAP	5.11	344.0	340.0	20.	5.01	5.19	6.3
# Oxford	2000	1	6.14	124.0	130.0	19.	3.78	3.81	86.0
# Oak Ridge	1600	3	6.16	1042.0	960.0	20.	4.28	4.73	22.0
5 May 1983 # Whiteface	1600	NAP	5.19	113.0	65.0	19.	4.23	4.22	27.0
# Oxford	2100	1	ISA	33.0	49.0	21.	4.20	ISA	ISA
6 May 1983 # Illinois	1600	3	ISA	2.0	ISA	ISA	ISA	ISA	ISA
8 May 1983 # Oxford	2100	4	6.14	1104.0	1150.0	17.	4.71	5.16	16.0
9 May 1983 # Ithaca	1200	NAP	6.09	1255.0	1290.0	23.	4.10	4.19	28.0
# Penn State	1800	NAP	6.21	480.0	490.0	25.	3.90	4.05	49.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

20/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO-DA	ML	ML	C			
9 May 1983	# Virginia	100	3	6.14	183.0	135.0	23.	4.60	4.84	12.0
	# Illinois	1700	9	6.08	135.0	180.0	25.	4.52	4.51	22.0
	# Brookhaven	1430	3	6.07	70.0	65.0	24.	3.89	3.92	73.0
	# Oak Ridge	2130	4	6.16	1366.0	1400.0	12.	4.25	4.30	20.0
10 May 1983	# Whiteface	1900	NAP	5.19	1769.0	1640.0	18.	4.66	4.67	9.8
11 May 1983	# Whiteface	1500	NAP	5.19	315.0	240.0	18.	4.78	4.75	8.0
15 May 1983	# Penn State	1530	NAP	6.21	634.0	590.0	25.	4.10	4.14	35.0
	# Brookhaven	1700	2	6.07	113.0	360.0	25.	4.45	4.44	19.0
	# Oxford	2230	21	6.14	1280.0	1410.0	16.	4.32	4.45	24.0
16 May 1983	# Whiteface	1400	NAP	5.19	821.0	650.0	18.	4.35	4.33	22.0
	# Ithaca	1900	NAP	6.09	535.0	500.0	21.	4.22	4.25	26.0
	# Oak Ridge	1630	18	6.16	2373.0	2180.0	20.	4.59	4.51	20.0
17 May 1983	# Penn State	1400	NAP	6.21	413.0	390.0	25.	3.98	3.97	51.0
	# Virginia	1300	8	6.14	6310.0	5900.0	23.	4.42	4.50	18.0
	# Brookhaven	2000	3	6.07	2308.0	2200.0	25.	4.56	4.53	15.0
	# Lewes	1300	34	6.09	2614.0	2570.0	20.	4.23	4.30	39.0
19 May 1983	# Illinois	1730	NAP	6.08	997.0	1450.0	25.	4.29	4.22	29.0
	# Oxford	1800	10	6.14	100.0	160.0	19.	4.58	4.71	16.0
	# Oak Ridge	2130	2	6.16	1722.0	1630.0	11.	5.26	4.98	7.3
20 May 1983	# Whiteface	1400	NAP	6.07	172.0	110.0	18.	4.17	4.13	33.0
	# Ithaca	1600	NAP	6.09	520.0	520.0	20.	4.28	4.25	29.0
	# Penn State	1900	NAP	6.21	1114.0	1070.0	25.	4.40	4.34	25.0
	# Lewes	1700	39	6.09	297.0	310.0	22.	4.86	4.88	12.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

21/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	P I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
	Z		MO.DA	ML	ML	C			
21 May 1983 # Brookhaven	1700	14	6.07	547.0	570.0	26.	4.57	4.68	33.0
22 May 1983 # Oxford	1900	8	6.14	1404.0	1350.0	22.	4.56	4.42	19.0
23 May 1983 # Whiteface	1400	NAP	6.07	62.0	50.0	18.	4.19	4.26	25.0
# Ithaca	1400	NAP	6.09	460.0	470.0	20.	4.31	4.34	21.0
# Penn State	1400	NAP	6.21	2268.0	2290.0	25.	4.30	4.22	30.0
# Virginia	1630	26	6.14	1152.0	1300.0	21.	4.53	4.54	18.0
# Illinois	1630	8	6.08	311.0	350.0	25.	4.28	4.25	29.0
# Brookhaven	1400	6	6.07	812.0	840.0	26.	4.24	4.21	28.0
# Lewes	1300	104	6.09	2234.0	1870.0	23.	4.66	4.40	20.0
# Oak Ridge	1600	21	6.16	3965.0	3630.0	21.	4.22	4.22	31.0
24 May 1983 # Whiteface	1300	NAP	6.07	493.0	410.0	19.	4.29	4.27	26.0
# Penn State	1400	NAP	MOE	101.0	85.0	MOE	MOE	MOE	MOE
# Oak Ridge	1730	3	6.16	260.0	180.0	20.	4.10	4.17	35.0
25 May 1983 # Whiteface	1300	NAP	6.07	31.0	33.0	20.	4.84	ISA	ISA
# Illinois	1700	1	6.08	41.0	27.0	25.	4.21	4.26	ISA
# Oxford	1900	4	ISA	26.0	33.0	19.	4.00	ISA	ISA
26 May 1983 # Whiteface	1430	NAP	6.07	218.0	195.0	19.	3.89	3.87	64.0
# Ithaca	1800	NAP	6.09	450.0	490.0	20.	4.11	4.10	41.0
# Oxford	2200	3	6.14	133.0	130.0	20.	5.29	RPC	RPC
27 May 1983 # Whiteface	1930	NAP	6.07	1112.0	1070.0	17.	4.46	4.20	29.0
# Virginia	1600	5	ISA	55.0	64.0	23.	3.56	ISA	ISA
# Brookhaven	1930	13	6.07	1900.0	1800.0	26.	4.16	4.11	37.0
# Lewes	1230	5	6.09	627.0	590.0	22.	4.11	4.02	45.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

22/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
28 May 1983	# Whiteface	1300	NAP	6.07	149.0	163.0	18.	4.26	4.29	26.0
	# Oxford	2400	8	6.14	187.0	210.0	17.	4.60	4.87	22.0
30 May 1983	# Whiteface	2000	NAP	6.07	615.0	570.0	18.	4.22	4.29	25.0
	# Penn State	1400	NAP	6.21	565.0	550.0	25.	4.05	3.98	56.0
	# Virginia	2130	15	6.14	382.0	360.0	22.	3.79	3.75	90.0
	# Brookhaven	1900	14	6.07	251.0	240.0	26.	4.42	4.50	23.0
	# Oxford	1430	2	6.14	233.0	220.0	19.	4.44	4.53	25.0
31 May 1983	# Whiteface	2000	NAP	6.07	501.0	460.0	18.	4.25	4.37	20.0
	# Ithaca	1800	NAP	6.09	805.0	830.0	20.	3.99	3.99	54.0
	# Illinois	1700	NAP	6.08	1538.0	1680.0	25.	4.24	4.22	29.0
	# Brookhaven	1500	1	ISA	29.0	33.0	26.	4.00	ISA	ISA
	# Lewes	1700	24	6.09	969.0	975.0	23.	4.14	4.24	29.0
	# Oak Ridge	1530	3	6.16	613.0	570.0	20.	4.88	4.51	16.0
1 Jun 1983	# Whiteface	1400	NAP	ISA	13.0	16.0	18.	4.15	ISA	ISA
	# Ithaca	1200	NAP	6.09	395.0	390.0	20.	4.16	4.18	33.0
	# Penn State	1430	NAP	6.21	310.0	324.0	25.	4.60	4.04	44.0
	# Brookhaven	1800	1	6.07	189.0	160.0	26.	3.93	3.98	56.0
2 Jun 1983	# Penn State	1430	NAP	ISA	185.0	150.0	MOE	MOE	MOE	MOE
	# Illinois	1730	NAP	ISA	3.0	ISA	ISA	ISA	ISA	ISA
	# Lewes	1400	31	6.09	362.0	240.0	21.	3.82	3.83	72.0
3 Jun 1983	# Oxford	2400	6	6.14	697.0	670.0	19.	4.12	4.05	39.0
4 Jun 1983	# Penn State	2300	NAP	6.21	856.0	810.0	25.	4.27	4.00	49.0
	# Virginia	2300	10	6.14	434.0	360.0	22.	4.04	4.04	45.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

23/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	P I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M B R O /C M
	Z		MO.DA	ML	ML	C			
4 Jun 1983 # Brookhaven	2300	15	7.14	1823.0	1740.0	26.	4.02	4.03	50.0
5 Jun 1983 # Whiteface	2400	NAP	8.03	550.0	520.0	19.	4.13	4.15	35.0
6 Jun 1983 # Ithaca	100	NAP	6.09	140.0	140.0	22.	3.82	3.84	64.0
# Illinois	1800	50	7.13	997.0	1130.0	25.	4.16	4.15	34.0
# Lewes	1700	27	6.09	402.0	NAP	23.	3.74	3.90	63.0
# Oxford	30	6	ISA	37.0	49.0	17.	3.69	ISA	ISA
# Oak Ridge	1700	5	6.16	3050.0	2850.0	22.	4.29	4.38	23.0
7 Jun 1983 # Whiteface	1300	NAP	8.03	1256.0	1250.0	19.	4.23	4.26	20.0
# Ithaca	1200	NAP	7.11	340.0	340.0	22.	3.88	3.93	62.0
# Penn State	1330	NAP	6.21	276.0	205.0	26.	3.80	3.71	94.0
# Brookhaven	1300	3	7.14	101.0	81.0	26.	4.04	ISA	ISA
# Oak Ridge	1600	4	7.19	137.0	81.0	14.	4.18	4.20	29.0
8 Jun 1983 # Lewes	1630	6	7.14	353.0	290.0	23.	4.17	4.30	24.0
11 Jun 1983 # Whiteface	1130	NAP	8.03	145.0	150.0	23.	3.63	3.62	120.0
14 Jun 1983 # Penn State	1330	NAP	7.08	123.0	85.0	25.	3.95	MOE	MOE
15 Jun 1983 # Illinois	1600	25	7.13	1261.0	1290.0	25.	4.64	4.57	14.0
16 Jun 1983 # Brookhaven	1900	2	ISA	25.0	33.0	23.	3.23	ISA	ISA
# Oxford	1930	9	7.12	1192.0	1190.0	24.	3.89	3.97	52.0
17 Jun 1983 # Whiteface	1830	NAP	8.03	2162.0	2060.0	25.	3.98	3.98	50.0
# Ithaca	1200	NAP	7.11	5110.0	5200.0	22.	3.71	3.71	90.0
# Penn State	1330	NAP	ISA	26.0	ISA	25.	3.91	ISA	ISA
18 Jun 1983 # Ithaca	1200	NAP	7.11	370.0	360.0	22.	3.87	3.86	58.0
19 Jun 1983 # Whiteface	1400	NAP	8.03	4015.0	3410.0	23.	3.97	3.96	51.0

MAP36 PRECIPITATION CHEMISTRY DATA (CONT.)

24/

		T I M E		L I D		A R R		S A M P		P R E D		F I E L D		F I E L D		L A B		C O N D U C T	
		R M V D		O P E N		D A T E		V O L		V O L		P H		P H		P H			
		%				MO. DA		ML		ML		C						UMHO/CM	
19 Jun 1983	# Penn State	1830		NAP		7.08		78.0		100.0		25.		3.77		MOE		MOE	
	# Lewes	2300		6		7.14		218.0		195.0		25.		3.94		4.18		36.0	
	# Oxford	1830		3		7.12		580.0		550.0		22.		4.14		4.22		28.0	
20 Jun 1983	# Illinois	1830		39		7.13		452.0		815.0		25.		3.89		3.82		70.0	
	# Oxford	2230		3		7.12		321.0		325.0		23.		3.65		3.72		90.0	
21 Jun 1983	# Penn State	1400		NAP		7.08		2994.0		3070.0		25.		4.20		4.00		44.0	
	# Brookhaven	1300		2		7.14		78.0		80.0		21.		3.75		3.75		100.0	
	# Oak Ridge	1530		15		7.19		976.0		880.0		22.		3.78		3.78		73.0	
22 Jun 1983	# Virginia	1900		17		7.13		4071.0		3300.0		24.		4.28		4.27		26.0	
	# Lewes	1200		22		7.14		3148.0		3020.0		21.		4.15		4.29		23.0	
23 Jun 1983	# Oak Ridge	1500		2		7.19		245.0		210.0		22.		3.55		3.76		83.0	
25 Jun 1983	# Whiteface	2100		NAP		8.03		86.0		65.0		22.		5.11		5.09		10.0	
26 Jun 1983	# Whiteface	2400		NAP		8.03		685.0		620.0		22.		4.40		4.42		10.0	
27 Jun 1983	# Whiteface	1400		NAP		8.03		1028.0		1010.0		22.		4.09		4.10		39.0	
28 Jun 1983	# Whiteface	1330		NAP		8.03		151.0		150.0		22.		4.24		4.29		24.0	
	# Illinois	1600		20		7.13		301.0		280.0		25.		4.45		4.44		21.0	
	# Oxford	2330		4		7.12		383.0		360.0		24.		4.02		4.00		43.0	
	# Oak Ridge	1930		5		7.19		408.0		325.0		21.		4.14		4.09		36.0	
29 Jun 1983	# Ithaca	1200		NAP		7.11		3725.0		3740.0		22.		4.10		4.09		37.0	
	# Penn State	1400		NAP		7.08		3664.0		3600.0		25.		3.89		3.86		61.0	
	# Illinois	1600		44		7.13		134.0		150.0		25.		3.97		4.00		40.0	
	# Brookhaven	1300		9		7.14		2618.0		2290.0		21.		4.11		4.13		33.0	
	# Lewes	2100		11		7.14		1050.0		930.0		20.		3.81		3.96		51.0	

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

25/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
30 Jun 1983	# Illinois	1800	47	7.13	1297.0	1425.0	25.	4.08	4.09	38.0
	# Oxford	1200	4	7.12	1650.0	1580.0	22.	4.50	4.55	16.0
1 Jul 1983	# Virginia	1430	7	7.13	257.0	220.0	23.	3.75	3.69	88.0
	# Oxford	1200	3	7.12	435.0	440.0	22.	3.94	3.94	55.0
2 Jul 1983	# Virginia	1800	2	7.13	2515.0	2650.0	24.	4.48	4.56	11.0
3 Jul 1983	# Whiteface	230	NAP	8.03	118.0	110.0	25.	3.98	3.96	56.0
5 Jul 1983	# Virginia	1700	3	7.13	195.0	170.0	24.	4.22	4.24	25.0
	# Illinois	1530	31	7.13	456.0	440.0	25.	4.27	4.22	31.0
	# Oxford	1800	3	8.09	1518.0	1330.0	23.	4.41	4.51	14.0
	# Oak Ridge	2400	7	7.19	855.0	780.0	22.	4.19	4.19	31.0
6 Jul 1983	# Ithaca	1200	NAP	7.11	80.0	65.0	23.	3.78	3.74	77.0
	# Virginia	1430	2	8.09	1891.0	1800.0	24.	4.48	4.49	12.0
	# Brookhaven	1200	6	7.14	2117.0	1930.0	23.	4.16	4.06	38.0
	# Lewes	1330	33	7.14	450.0	440.0	24.	3.90	4.10	36.0
7 Jul 1983	# Whiteface	1230	NAP	8.09	364.0	310.0	22.	4.42	4.50	17.0
	# Lewes	1430	3	8.19	1125.0	1090.0	23.	3.69	3.91	73.0
9 Jul 1983	# Whiteface	1300	NAP	8.09	366.0	360.0	21.	4.37	4.41	24.0
11 Jul 1983	# Ithaca	1300	NAP	8.18	95.0	130.0	23.	3.81	3.93	80.0
12 Jul 1983	# Whiteface	1300	NAP	8.09	43.0	32.0	22.	4.06	ISA	ISA
13 Jul 1983	# Oxford	1730	11	8.09	141.0	160.0	26.	5.19	6.45	56.0
15 Jul 1983	# Whiteface	1300	NAP	8.09	291.0	290.0	25.	4.88	4.86	11.0
18 Jul 1983	# Penn State	1530	NAP	8.05	387.0	375.0	25.	3.99	3.70	97.0
	# Oxford	1330	2	ISA	12.0	17.0	23.	3.93	ISA	ISA

MAP36 PRECIPITATION CHEMISTRY DATA (CONT.)

26/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M B O /C M
		Z		MO, DA	ML	ML	C			
19 Jul 1983	# Ithaca	1200	NAP	8.18	22.0	16.0	23.	4.12	4.17	ISA
	# Lewes	2400	3	8.19	1170.0	1040.0	21.	3.96	3.88	70.0
	# Oxford	1830	5	8.09	535.0	520.0	26.	4.05	4.22	32.0
	# Oak Ridge	1530	6	8.15	193.0	150.0	21.	3.84	3.82	83.0
20 Jul 1983	# Penn State	1800	NAP	8.05	67.0	51.0	25.	4.25	4.21	ISA
	# Virginia	1430	5	8.09	548.0	630.0	22.	3.85	3.85	56.0
	# Brookhaven	1400	11	8.08	370.0	370.0	25.	3.83	3.86	60.0
	# Oxford	2000	2	8.09	56.0	50.0	NAP	4.20	ISA	ISA
	# Oak Ridge	1530	3	8.15	101.0	81.0	22.	3.41	3.40	210.0
21 Jul 1983	# Penn State	1600	NAP	ISA	33.0	34.0	25.	3.64	ISA	ISA
	# Virginia	1430	2	8.09	300.0	260.0	22.	3.97	3.98	45.0
	# Oak Ridge	1630	11	8.15	366.0	360.0	21.	3.66	3.64	120.0
22 Jul 1983	# Whiteface	1300	NAP	8.09	397.0	410.0	23.	4.88	4.97	6.4
	# Ithaca	1200	NAP	8.18	375.0	370.0	23.	4.19	4.39	20.0
	# Penn State	1700	NAP	8.05	118.0	85.0	25.	3.79	4.87	6.6
	# Virginia	1430	2	8.09	300.0	240.0	22.	3.95	3.92	48.0
	# Brookhaven	1430	2	8.08	780.0	750.0	23.	4.06	4.09	33.0
	# Lewes	1400	1	8.19	251.0	160.0	20.	3.91	3.70	130.0
24 Jul 1983	# Whiteface	1330	NAP	8.09	436.0	420.0	23.	4.04	4.09	41.0
	# Penn State	2300	NAP	8.05	2196.0	2180.0	25.	3.87	3.80	77.0
	# Brookhaven	1830	7	8.08	1590.0	1400.0	21.	4.18	4.18	26.0
	# Lewes	2200	2	8.19	66.0	81.0	22.	3.78	ISA	ISA
25 Jul 1983	# Ithaca	1400	NAP	8.18	2325.0	2210.0	23.	4.35	4.43	21.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

27/

		T I M E		L I D		A R R		S A M P		P R E D		P I E L D		P I E L D		L A B		C O N D U C T	
		R M V D		O P E N		D A T E		V O L		V O L		P H		P H		P H			
		Z				MO.DA		ML		ML		C						UMHO/CM	
25 Jul 1983	# Virginia	1400		6		8.09		88.0		65.0		24.		3.88		ISA		ISA	
	# Illinois	1600		6		ISA		18.0		14.0		25.		5.85		ISA		ISA	
	# Oxford	2130		NAP		8.09		1389.0		1500.0		24.		4.73		RPC		RPC	
	# Oak Ridge	2100		7		8.15		660.0		580.0		21.		4.11		4.19		38.0	
29 Jul 1983	# Illinois	1600		5		8.11		267.0		1730.0		25.		3.94		3.90		73.0	
30 Jul 1983	# Whiteface	1300		NAP		8.09		797.0		720.0		25.		4.39		4.32		25.0	
31 Jul 1983	# Brookhaven	1800		2		8.08		2191.0		2290.0		26.		3.90		3.89		51.0	
1 Aug 1983	# Whiteface	1530		NAP		8.09		1562.0		1130.0		25.		4.05		4.13		37.0	
	# Ithaca	1600		NAP		8.18		1295.0		1270.0		23.		4.00		4.03		48.0	
	# Illinois	1530		16		8.11		64.0		2730.0		25.		4.16		4.27		ISA	
	# Oxford	1430		5		8.09		86.0		120.0		23.		3.54		3.71		ISA	
2 Aug 1983	# Whiteface	1400		NAP		8.09		279.0		240.0		23.		4.32		4.36		21.0	
	# Penn State	1330		NAP		8.05		520.0		530.0		25.		3.90		3.89		59.0	
	# Brookhaven	1900		3		8.08		265.0		310.0		26.		3.83		3.79		73.0	
	# Lewes	1330		8		8.19		1816.0		1670.0		23.		4.26		4.38		24.0	
	# Oak Ridge	1500		2		8.15		1464.0		1380.0		18.		4.50		4.43		19.0	
3 Aug 1983	# Whiteface	1400		NAP		8.09		110.0		110.0		24.		4.37		4.49		17.0	
	# Ithaca	1700		NAP		8.18		205.0		210.0		23.		4.06		4.14		36.0	
	# Virginia	1400		1		9.12		2322.0		2210.0		24.		3.86		3.92		59.0	
5 Aug 1983	# Whiteface	1300		NAP		ISA		42.0		32.0		24.		3.78		ISA		ISA	
	# Penn State	1400		NAP		ISA		4.8		ISA		ISA		ISA		ISA		ISA	
	# Virginia	1930		2		9.12		35.0		16.0		25.		3.44		ISA		ISA	
	# Illinois	1900		4		9.20		455.0		706.0		25.		4.20		4.24		39.0	

MAP35 PRECIPITATION CHEMISTRY DATA (CONT.)

28/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		NO.DA	ML	ML	C			
6 Aug 1983	# Whiteface	1800	NAP	9.08	1250.0	1010.0	24.	3.85	3.89	65.0
	# Virginia	1530	2	9.12	1430.0	1320.0	22.	3.78	3.82	67.0
	# Oxford	1430	4	9.12	251.0	240.0	23.	3.72	3.82	81.0
7 Aug 1983	# Virginia	1530	1	9.12	332.0	280.0	22.	3.73	3.76	82.0
8 Aug 1983	# Whiteface	1400	NAP	ISA	ISA	325.0	ISA	ISA	ISA	ISA
	# Ithaca	1700	NAP	8.18	46.0	33.0	23.	3.59	3.58	130.0
	# Oxford	1230	2	9.12	86.0	82.0	23.	3.86	ISA	ISA
	# Oak Ridge	1730	5	9.16	1014.0	940.0	22.	3.70	3.67	100.0
9 Aug 1983	# Whiteface	1400	NAP	9.08	3883.0	3000.0	22.	4.40	4.47	18.0
	# Ithaca	1800	NAP	8.18	34.0	33.0	23.	4.31	4.49	20.0
	# Penn State	1430	NAP	ISA	4.0	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	1930	2	9.16	146.0	110.0	22.	3.55	3.52	150.0
10 Aug 1983	# Virginia	1430	2	9.12	3329.0	3060.0	23.	4.02	4.07	43.0
	# Brookhaven	1900	1	9.12	218.0	180.0	21.	3.65	3.63	110.0
11 Aug 1983	# Illinois	1600	9	9.20	413.0	490.0	25.	4.83	4.88	25.0
	# Lewes	1600	2	ISA	17.0	16.0	21.	5.77	ISA	ISA
	# Oxford	30	2	9.12	1767.0	1625.0	23.	3.88	3.95	55.0
12 Aug 1983	# Whiteface	2000	NAP	9.08	2527.0	2000.0	21.	4.40	4.41	17.0
	# Ithaca	1800	NAP	8.18	2315.0	2320.0	23.	3.98	4.04	46.0
	# Penn State	1500	NAP	9.08	976.0	955.0	25.	3.63	3.68	99.0
	# Virginia	1530	3	9.12	595.0	620.0	23.	3.77	3.80	75.0
	# Lewes	1200	8	9.12	5055.0	4710.0	21.	3.87	3.89	61.0
	# Oak Ridge	1530	2	9.16	330.0	293.0	21.	4.21	4.36	20.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

29/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	
	Z		MO.DA	ML	ML	C			UMHO/CM
13 Aug 1983 # Brookhaven	1600	3	9.12	5777.0	2230.0	21.	4.10	4.13	35.0
14 Aug 1983 # Lewes	2200	3	9.12	180.0	81.0	22.	3.95	3.92	37.0
17 Aug 1983 # Illinois	2000	6	9.20	578.0	620.0	25.	4.07	4.37	34.0
18 Aug 1983 # Ithaca	1200	NAP	9.15	245.0	310.0	22.	3.40	3.41	170.0
# Penn State	1800	NAP	9.08	950.0	955.0	25.	3.48	3.51	150.0
# Virginia	1930	2	9.12	253.0	310.0	24.	4.07	4.27	27.0
# Oxford	2200	4	9.12	40.0	50.0	27.	4.01	ISA	ISA
20 Aug 1983 # Whiteface	1300	NAP	9.08	73.0	65.0	21.	3.66	3.71	110.0
22 Aug 1983 # Penn State	1730	NAP	ISA	50.0	51.0	25.	3.19	ISA	ISA
23 Aug 1983 # Whiteface	1500	NAP	9.08	488.0	360.0	23.	4.40	4.38	19.0
# Ithaca	1200	NAP	9.15	500.0	490.0	22.	3.84	3.83	67.0
# Illinois	1600	15	9.20	694.0	680.0	25.	4.45	4.48	20.0
# Lewes	1400	8	9.12	680.0	390.0	26.	3.65	3.64	120.0
# Oxford	1300	3	ISA	13.0	20.0	ISA	4.69	ISA	ISA
24 Aug 1983 # Virginia	1900	4	9.12	1210.0	1200.0	23.	3.68	3.70	92.0
26 Aug 1983 # Illinois	1530	12	9.20	1320.0	1340.0	25.	4.18	4.23	34.0
27 Aug 1983 # Oxford	2200	2	ISA	23.0	33.0	23.	3.64	ISA	ISA
28 Aug 1983 # Whiteface	1830	NAP	9.08	81.0	65.0	24.	3.81	3.87	70.0
# Penn State	1430	NAP	9.08	149.0	140.0	25.	3.50	ISA	ISA
29 Aug 1983 # Ithaca	1600	NAP	ISA	20.0	32.0	22.	3.29	ISA	ISA
# Penn State	1530	NAP	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	1600	3	9.12	382.0	340.0	22.	3.58	3.59	110.0
# Illinois	1730	16	9.20	1153.0	1180.0	25.	3.86	3.91	69.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

30/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO,DA	ML	ML	C			
29 Aug 1983	# Brookhaven	1800	25	9.12	539.0	570.0	24.	4.04	4.04	42.0
	# Lewes	1930	6	9.12	8273.0	7575.0	23.	4.25	4.23	26.0
	# Oxford	130	3	9.12	401.0	390.0	22.	4.09	4.05	46.0
30 Aug 1983	# Lewes	1300	2	9.12	107.0	98.0	23.	4.00	3.99	57.0
31 Aug 1983	# Whiteface	1530	NAP	9.08	1391.0	1080.0	21.	4.55	4.52	14.0
	# Ithaca	1900	14	9.15	1165.0	1220.0	24.	4.11	4.14	38.0
1 Sep 1983	# Whiteface	1430	NAP	ISA	41.0	32.0	24.	4.24	ISA	ISA
	# Penn State	1530	NAP	9.08	645.0	630.0	25.	3.58	3.58	120.0
	# Virginia	1400	5	9.12	748.0	756.0	23.	4.04	4.09	40.0
	# Brookhaven	900	NAP	10.05	890.0	830.0	25.	4.08	4.15	34.0
	# Lewes	1600	12	9.12	4778.0	4190.0	22.	4.11	4.10	39.0
6 Sep 1983	# Penn State	1500	NAP	10.05	100.0	102.0	25.	3.48	3.52	140.0
	# Illinois	1600	ISA	ISA	0.5	ISA	25.	3.94	ISA	ISA
	# Oak Ridge	1600	21	9.16	1060.0	975.0	22.	4.37	4.22	32.0
7 Sep 1983	# Whiteface	1800	NAP	10.06	130.0	110.0	24.	4.22	4.22	31.0
	# Ithaca	1200	3	9.15	85.0	96.0	ISA	ISA	3.73	88.0
	Illinois	1900	2	10.18	106.0	140.0	25.	4.68	4.91	50.0
8 Sep 1983	# Whiteface	1230	NAP	ISA	29.0	32.0	24.	4.28	ISA	ISA
12 Sep 1983	# Whiteface	1430	NAP	10.06	116.0	81.0	24.	3.83	3.86	88.0
	# Penn State	1400	NAP	10.05	94.0	68.0	25.	3.51	3.56	ISA
	Illinois	1730	0	ISA	4.1	ISA	25.	3.48	ISA	ISA
	# Oxford	1830	3	10.12	623.0	620.0	26.	4.50	4.36	24.0
13 Sep 1983	# Brookhaven	1400	1	10.05	526.0	490.0	25.	3.77	3.81	73.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

31/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO, DA	ML	ML	C			
14 Sep 1983	# Penn State	1400	NAP	10.05	648.0	610.0	25.	4.08	4.06	41.0
	# Virginia	1800	17	10.11	259.0	290.0	23.	3.91	3.91	59.0
	# Lewes	2400	MOE	10.05	2432.0	2410.0	21.	3.72	3.78	88.0
	Oak Ridge	2030	6	10.17	811.0	715.0	24.	4.50	4.49	14.0
16 Sep 1983	Illinois	1530	13	10.18	249.0	240.0	25.	3.88	3.86	73.0
	# Oxford	2200	4	10.12	206.0	180.0	24.	3.65	3.67	110.0
17 Sep 1983	# Penn State	2330	NAP	10.05	859.0	870.0	25.	4.02	4.02	47.0
	# Brookhaven	1400	2	10.05	47.0	49.0	25.	4.27	ISA	ISA
18 Sep 1983	# Whiteface	1230	NAP	10.06	616.0	420.0	20.	4.16	4.16	35.0
	# Brookhaven	1400	3	10.05	86.0	110.0	25.	3.62	3.66	120.0
19 Sep 1983	# Whiteface	1330	NAP	10.06	329.0	310.0	20.	4.12	4.23	34.0
	# Ithaca	2100	10	10.05	130.0	190.0	23.	3.73	3.77	95.0
20 Sep 1983	Illinois	1530	3	ISA	19.0	ISA	25.	4.39	ISA	ISA
	# Oxford	2300	1	10.12	139.0	150.0	24.	4.47	4.27	27.0
21 Sep 1983	Illinois	1700	2	10.18	632.0	630.0	25.	4.23	4.24	26.0
	# Oxford	2300	4	10.12	1836.0	1740.0	16.	4.97	4.56	15.0
22 Sep 1983	# Whiteface	1500	NAP	10.06	2716.0	2550.0	21.	5.21	4.99	5.1
	# Ithaca	1400	1	10.05	2230.0	2160.0	24.	4.49	4.50	15.0
	# Penn State	1330	NAP	10.05	1240.0	1240.0	25.	4.59	4.63	11.0
	# Virginia	1500	MOE	10.11	874.0	890.0	18.	3.95	4.38	20.0
	# Brookhaven	1700	1	10.05	1464.0	1590.0	26.	4.84	4.76	13.0
	# Lewes	1400	12	10.05	2458.0	2160.0	16.	4.71	4.68	22.0
	Oak Ridge	1700	10	10.17	1581.0	1500.0	20.	4.56	4.45	15.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

32/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
23 Sep 1983	# Whiteface	1400	NAP	10.06	46.0	49.0	20.	4.16	4.16	36.0
	# Oxford	2300	3	10.12	44.0	81.0	17.	4.43	ISA	ISA
26 Sep 1983	# Ithaca	2000	2	10.05	60.0	64.0	24.	3.95	3.99	50.0
	Illinois	1600	7	ISA	26.0	41.0	25.	3.90	ISA	ISA
27 Sep 1983	# Whiteface	2000	NAP	10.06	63.0	49.0	20.	3.79	3.81	92.0
1 Oct 1983	Penn State	1730	NAP	10.05	644.0	630.0	25.	4.95	4.77	11.0
	# Virginia	2230	4	10.11	2674.0	2700.0	23.	5.01	4.64	11.0
	Lewes	2100	54	10.05	4225.0	3850.0	19.	4.81	4.93	26.0
2 Oct 1983	Brookhaven	2200	41	10.05	1751.0	1670.0	25.	4.64	4.68	19.0
3 Oct 1983	Lewes	1700	12	10.05	499.0	520.0	20.	4.25	4.31	27.0
4 Oct 1983	Oxford	2200	2	11.11	752.0	730.0	21.	4.68	4.55	13.0
5 Oct 1983	Oxford	1730	5	11.11	904.0	894.0	22.	4.52	4.34	21.0
6 Oct 1983	Whiteface	1300	NAP	11.10	2054.0	1820.0	19.	4.29	4.25	25.0
	# Ithaca	1200	5	11.14	1230.0	1230.0	23.	3.99	3.98	45.0
	Penn State	1430	NAP	11.03	313.0	310.0	25.	3.89	3.87	58.0
	Brookhaven	1200	2	11.08	140.0	130.0	22.	3.89	3.90	70.0
	Lewes	1300	8	ISA	60.0	49.0	22.	4.10	ISA	ISA
	Oak Ridge	1530	3	10.17	1286.0	1200.0	21.	4.49	4.49	14.0
7 Oct 1983	Whiteface	1400	NAP	11.10	185.0	160.0	19.	4.42	4.37	21.0
	Ithaca	1200	1	11.14	125.0	150.0	23.	4.40	4.40	31.0
9 Oct 1983	Whiteface	2000	NAP	11.10	218.0	230.0	19.	4.03	3.95	52.0
10 Oct 1983	Illinois	1530	2	10.18	85.0	41.0	25.	5.49	5.19	29.0
12 Oct 1983	Virginia	1800	3	11.07	2674.0	2680.0	24.	4.34	4.34	26.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

33/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R H V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
12 Oct 1983	Illinois	1730	3	11.10	1703.0	1120.0	25.	4.63	4.48	15.0
	Lewes	1900	40	11.10	956.0	930.0	21.	5.39	5.03	35.0
13 Oct 1983	Whiteface	1400	NAP	11.10	770.0	680.0	19.	5.13	4.90	5.9
	† Ithaca	1200	3	11.14	498.0	510.0	23.	4.45	4.43	19.0
	Penn State	1500	NAP	11.03	434.0	480.0	25.	4.14	4.09	40.0
	Illinois	1630	2	11.10	32.0	27.0	25.	4.79	4.91	10.0
	† Oxford	1930	9	11.11	NAP	3360.0	MOE	MOE	4.48	14.0
14 Oct 1983	† Whiteface	1500	NAP	11.10	790.0	780.0	19.	5.51	RPC	RPC
	Ithaca	1200	2	11.14	1150.0	1120.0	23.	4.74	4.77	7.5
	Penn State	1500	NAP	11.03	2090.0	2100.0	25.	4.75	4.79	7.5
	Virginia	1500	8	11.07	1354.0	1250.0	22.	4.62	4.63	10.0
	Illinois	1700	1	11.10	238.0	260.0	25.	5.22	4.76	20.0
	† Brookhaven	1330	29	MOE	MOE	1070.0	23.	5.16	MOE	MOE
	Lewes	1500	12	11.10	196.0	180.0	21.	4.83	4.88	12.0
	† Oak Ridge	1330	12	11.16	3418.0	3140.0	11.	4.61	4.57	12.0
16 Oct 1983	Oxford	1800	2	11.11	51.0	49.0	22.	4.34	ISA	ISA
17 Oct 1983	† Whiteface	1400	NAP	11.10	395.0	360.0	19.	4.72	4.59	15.0
	Illinois	1730	3	ISA	4.0	ISA	ISA	ISA	ISA	ISA
18 Oct 1983	Illinois	1600	13	11.10	30.0	24.0	25.	4.21	4.15	44.0
19 Oct 1983	Penn State	1530	NAP	11.03	2212.0	2200.0	25.	4.90	4.14	30.0
	Brookhaven	2000	6	11.08	1065.0	990.0	26.	3.92	3.95	53.0
	Oxford	1800	9	11.11	1369.0	1300.0	15.	4.40	4.21	30.0
21 Oct 1983	Ithaca	1200	2	ISA	5.0	ISA	24.	4.74	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

34/

		T I M E	L I D	A R R	S A M P	P R E D	P I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
21 Oct 1983	Lewes	1630	37	ISA	58.0	65.0	20.	3.68	ISA	ISA
22 Oct 1983	# Virginia	1700	1	11.07	3100.0	3010.0	18.	4.30	4.35	24.0
23 Oct 1983	# Oxford	1800	27	11.11	NAP	4190.0	16.	4.70	4.25	23.0
24 Oct 1983	# Whiteface	1700	NAP	11.10	921.0	860.0	19.	4.72	4.62	9.9
	Ithaca	1200	3	11.14	1025.0	1060.0	24.	4.37	4.37	10.0
	Penn State	1430	NAP	11.03	791.0	840.0	25.	4.50	4.50	14.0
	# Virginia	1600	1	11.07	1029.0	3940.0	20.	5.01	4.95	4.6
	Illinois	1530	NAP	11.10	8138.0	7910.0	25.	4.45	4.32	20.0
	Brookhaven	2030	15	11.08	3123.0	3200.0	26.	5.08	4.88	11.0
	Oxford	2030	4	11.11	73.0	81.0	18.	4.08	ISA	ISA
25 Oct 1983	Penn State	1400	NAP	ISA	ISA	17.0	ISA	ISA	ISA	ISA
	Virginia	1830	1	11.07	145.0	110.0	22.	4.00	3.93	48.0
	Oak Ridge	1300	MOE	11.16	3214.0	2940.0	12.	4.60	4.72	8.8
26 Oct 1983	Penn State	1500	NAP	11.03	97.0	120.0	25.	3.75	3.83	61.0
	Lewes	1300	56	11.10	2852.0	2930.0	20.	4.82	4.86	17.0
27 Oct 1983	Ithaca	2000	7	11.14	440.0	520.0	24.	4.35	4.35	20.0
28 Oct 1983	# Whiteface	1330	NAP	11.10	539.0	520.0	19.	4.42	4.33	20.0
30 Oct 1983	Penn State	1700	NAP	ISA	ISA	ISA	ISA	ISA	ISA	ISA
31 Oct 1983	# Whiteface	1400	NAP	11.10	595.0	590.0	19.	4.61	4.57	21.0
	Illinois	1500	3	ISA	6.0	ISA	25.	3.49	ISA	ISA
3 Nov 1983	Illinois	1530	2	11.10	1118.0	1110.0	25.	4.47	4.39	20.0
	# Oxford	1900	12	11.11	546.0	490.0	19.	4.22	3.96	52.0
4 Nov 1983	# Whiteface	1830	NAP	12.06	1705.0	1400.0	19.	4.58	4.50	13.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

35/

		T I M E	L I D	A R R	S A M P	P R E D	P I E L D	P I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO.DA	ML	ML	C			
4 Nov 1983	Ithaca	1200	4	11.14	665.0	690.0	24.	4.10	4.05	38.0
	# Penn State	1400	NAP	12.06	571.0	MOE	25.	4.26	4.21	29.0
	Brookhaven	1400	6	12.06	1329.0	1220.0	26.	4.24	4.23	28.0
	Lewes	1500	8	11.10	307.0	290.0	22.	3.89	3.89	72.0
	Oxford	2030	1	12.13	69.0	65.0	17.	4.20	ISA	ISA
	Oak Ridge	1900	17	11.16	1409.0	1300.0	20.	4.17	4.15	33.0
7 Nov 1983	# Whiteface	1400	NAP	12.06	1490.0	2180.0	19.	4.92	4.79	7.2
	# Ithaca	1200	9	11.14	262.0	440.0	24.	4.44	4.40	16.0
	# Penn State	1630	NAP	12.06	129.0	140.0	25.	4.51	4.25	22.0
	Illinois	1000	10	ISA	24.0	ISA	25.	6.20	ISA	ISA
11 Nov 1983	# Penn State	1830	NAP	12.06	2225.0	2340.0	25.	4.45	4.33	19.0
	Virginia	1900	3	12.08	2704.0	2500.0	23.	4.72	4.66	10.0
	Illinois	1500	NAP	12.08	1083.0	1110.0	25.	4.43	4.35	20.0
	Lewes	1500	NAP	12.12	1060.0	890.0	23.	4.66	4.55	30.0
	Oak Ridge	1630	7	12.02	347.0	325.0	16.	4.17	4.14	33.0
12 Nov 1983	Lewes	1930	20	ISA	70.0	80.0	20.	4.09	ISA	ISA
	# Oxford	2130	16	12.13	MOE	2160.0	16.	4.64	4.35	19.0
13 Nov 1983	# Whiteface	2000	NAP	12.06	3171.0	2850.0	20.	4.56	4.46	15.0
	# Ithaca	2000	15	12.08	2025.0	2040.0	24.	4.38	4.31	21.0
	# Penn State	1700	NAP	12.06	60.0	85.0	25.	4.75	4.50	13.0
14 Nov 1983	# Illinois	1500	12	ISA	20.0	ISA	25.	4.09	ISA	ISA
	Brookhaven	1700	9	12.06	2751.0	2540.0	24.	4.52	4.55	13.0
15 Nov 1983	Illinois	1530	1	ISA	1.4	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

36/

		T I M E	L I D	A R R	S A M P	P R E D	P I E L D	P I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M R O/ C M
		Z		MO.DA	ML	ML	C			
15 Nov 1983	Oak Ridge	1930	7	12.02	1460.0	1350.0	15.	4.40	4.35	22.0
16 Nov 1983	Ithaca	2300	7	12.08	610.0	670.0	24.	4.36	4.38	19.0
	† Penn State	1600	NAP	12.06	828.0	820.0	25.	4.53	4.35	19.0
	Virginia	1630	2	12.08	848.0	845.0	20.	4.23	4.24	25.0
	† Illinois	2000	MOE	12.08	171.0	170.0	25.	4.23	4.13	40.0
	Lewes	1630	62	12.12	2198.0	2290.0	23.	4.39	4.37	31.0
	Oxford	2130	14	12.13	911.0	1010.0	14.	4.52	4.28	24.0
17 Nov 1983	Brookhaven	1300	11	12.06	4146.0	3720.0	25.	4.76	4.79	10.0
	Lewes	1330	NAP	ISA	20.0	20.0	22.	3.73	ISA	ISA
18 Nov 1983	† Whiteface	1400	NAP	12.06	1256.0	1170.0	19.	4.94	4.78	6.9
	† Penn State	1530	NAP	ISA	30.0	85.0	25.	4.24	ISA	ISA
19 Nov 1983	† Ithaca	100	10	12.08	195.0	380.0	24.	4.49	4.43	17.0
	Penn State	1600	NAP	ISA	17.0	17.0	25.	3.66	ISA	ISA
20 Nov 1983	† Oxford	2330	11	12.13	677.0	650.0	16.	4.41	4.30	24.0
21 Nov 1983	† Whiteface	1700	NAP	12.06	1247.0	1090.0	20.	4.80	4.71	8.0
	Ithaca	1300	12	12.08	1020.0	1010.0	24.	4.68	4.65	10.0
	Penn State	1600	NAP	12.06	1400.0	1430.0	25.	4.62	4.46	15.0
	Virginia	2100	4	12.08	1240.0	1120.0	25.	4.71	4.81	11.0
	† Illinois	1500	MOE	12.08	1346.0	1290.0	25.	4.57	4.46	21.0
	Brookhaven	1400	3	12.06	900.0	860.0	24.	4.73	4.79	15.0
	Lewes	1530	36	12.12	1324.0	1300.0	24.	5.04	4.94	9.8
	Oak Ridge	1430	4	12.02	1513.0	1410.0	19.	4.75	4.77	7.0
23 Nov 1983	† Illinois	2130	MOE	12.08	1252.0	1220.0	25.	4.59	4.47	15.0

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

37/

		T I M E		L I D		A R R		S A M P		P R E D		F I E L D		F I E L D		L A B		C O N D U C T	
		R M V D		O P E N		D A T E		V O L		V O L		P H		P H		P H			
		Z		MO.DA		ML		ML		C								UMHO/CM	
25 Nov 1983	# Penn State	1400		NAP		12.06		1097.0		1040.0		25.		4.33		4.18		28.0	
	# Lewes	1800		110		12.12		3620.0		3580.0		22.		4.62		4.72		20.0	
	# Oxford	2130		18		12.13		1706.0		1690.0		16.		4.86		4.53		13.0	
26 Nov 1983	Virginia	1530		14		12.08		2859.0		2680.0		21.		4.69		4.61		11.0	
27 Nov 1983	# Ithaca	1800		9		12.08		1230.0		1500.0		24.		4.29		4.24		24.0	
	# Penn State	1500		NAP		ISA		ISA		ISA		ISA		ISA		ISA		ISA	
28 Nov 1983	# Whiteface	1400		NAP		12.06		1684.0		1670.0		19.		4.70		4.58		11.0	
	# Illinois	1530		MOE		12.08		1619.0		1870.0		25.		4.51		4.38		18.0	
	Brookhaven	100		17		12.06		4505.0		4370.0		26.		4.84		4.92		8.6	
	# Oxford	2000		10		12.13		1491.0		1410.0		18.		4.75		4.30		23.0	
	Oak Ridge	1500		17		12.02		4603.0		4290.0		12.		4.61		4.61		11.0	
29 Nov 1983	# Whiteface	1500		NAP		12.06		970.0		960.0		19.		4.69		4.54		11.0	
	Ithaca	1400		12		12.08		1180.0		1200.0		24.		4.35		4.34		19.0	
	Penn State	1530		NAP		12.06		1218.0		1140.0		25.		4.20		4.14		29.0	
	Virginia	2000		8		12.08		357.0		340.0		23.		3.97		3.94		52.0	
	Brookhaven	1800		9		12.06		777.0		845.0		26.		4.08		4.12		56.0	
1 Dec 1983	# Whiteface	2000		NAP		12.06		193.0		240.0		19.		4.10		4.11		37.0	
2 Dec 1983	# Illinois	1530		MOE		1.17		179.0		160.0		25.		4.38		4.27		26.0	
3 Dec 1983	# Penn State	1530		NAP		12.06		403.0		325.0		25.		5.00		4.52		13.0	
	# Oxford	1930		8		12.13		472.0		460.0		16.		4.81		4.26		25.0	
4 Dec 1983	Virginia	2100		4		1.11		2215.0		2040.0		23.		4.33		4.26		22.0	
	# Brookhaven	200		5		1.06		440.0		410.0		26.		4.26		4.24		25.0	
	Lewes	2330		185		1.09		1674.0		1510.0		22.		4.47		4.53		41.0	

MAP36 PRECIPITATION CHEMISTRY DATA (CONT.)

38/

		T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
		R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	U M H O /C M
		Z		MO,DA	ML	ML	C			
4 Dec 1983	Oxford	22F	8	1.11	786.0	810.0	14.	4.68	4.25	23.0
5 Dec 1983	4 Whiteface	2000	NAP	1.09	776.0	585.0	19.	5.04	4.99	4.7
	# Ithaca	1300	MOE	12.08	690.0	900.0	24.	4.63	4.61	11.0
	# Penn State	1500	NAP	1.09	950.0	970.0	25.	4.49	4.32	18.0
	# Illinois	1530	3	1.17	1097.0	1080.0	25.	4.52	4.36	19.0
	Brookhaven	1500	7	1.06	2368.0	2200.0	26.	4.64	4.63	18.0
	Oak Ridge	1500	14	1.06	4749.0	4340.0	21.	4.35	4.26	25.0
7 Dec 1983	# Penn State	1500	NAP	1.09	1388.0	1350.0	25.	4.29	4.18	25.0
	4 Illinois	1600	NAP	1.17	299.0	330.0	25.	4.16	4.08	44.0
	Brookhaven	1930	7	1.06	820.0	860.0	26.	4.21	4.20	31.0
	Lewes	1600	31	1.09	757.0	700.0	21.	4.28	4.30	26.0
	# Oxford	2130	14	1.11	159.0	200.0	20.	4.35	4.06	40.0
	Oak Ridge	1500	5	1.06	1004.0	880.0	14.	4.47	4.43	17.0
8 Dec 1983	# Whiteface	1400	NAP	1.09	1227.0	1720.0	17.	4.46	4.43	16.0
	# Ithaca	1300	MOE	1.06	590.0	610.0	25.	4.25	4.20	25.0
	# Illinois	1500	1	1.17	82.0	NAP	25.	4.35	4.27	20.0
	# Oxford	1830	10	1.11	112.0	160.0	21.	4.50	ISA	ISA
9 Dec 1983	Illinois	1430	2	ISA	3.7	ISA	ISA	ISA	ISA	ISA
10 Dec 1983	# Penn State	1500	NAP	ISA	31.0	34.0	25.	4.09	ISA	ISA
12 Dec 1983	Illinois	1700	NAP	1.17	2497.0	2540.0	25.	4.45	4.31	21.0
	Lewes	1630	84	1.09	951.0	850.0	22.	4.68	4.68	53.0
13 Dec 1983	Virginia	2100	9	1.11	3357.0	3150.0	24.	4.47	4.47	18.0
	# Illinois	1600	ISA	ISA	3.8	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

39/

		T J E		L I D		A R R		S A M P		P R E D		F I E L D		P I E L D		L A B		C O N D U C T	
		R M V D		O P E N		D A T E		V O L		V O L		P H		P H		P H			
		Z		MO.DA		ML		ML		C								UMHO/CM	
13 Dec 1983	Oak Ridge	1400		2		1.06		2004.0		1820.0		13.		4.63		4.62		12.0	
14 Dec 1983	Ithaca	2000		MOE		1.06		5395.0		5360.0		24.		4.75		4.74		7.2	
	Penn State	1600		NAP		1.09		3521.0		3390.0		25.		5.70		4.69		7.0	
	Brookhaven	1600		10		1.06		083.0		780.0		26.		4.47		4.50		37.0	
	Lewes	1430		09		1.09		877.0		830.0		22.		5.10		5.14		32.0	
15 Dec 1983	Whiteface	1400		NAP		1.09		6243.0		5400.0		18.		4.92		4.82		6.5	
	Lewes	2030		4		1.09		300.0		160.0		23.		4.68		4.75		9.3	
	# Oxford	2000		20		1.11		1446.0		1460.0		20.		4.52		4.15		31.0	
	Oak Ridge	1400		8		1.06		416.0		360.0		15.		4.24		4.21		30.0	
16 Dec 1983	# Illinois	2200		4		1.17		769.0		750.0		25.		4.41		4.32		26.0	
	Brookhaven	1430		7		1.06		390.0		370.0		27.		4.55		4.67		14.0	
17 Dec 1983	# Penn State	1700		NAP		ISA		41.0		17.0		25.		3.90		ISA		ISA	
19 Dec 1983	# Whiteface	1900		NAP		1.09		223.0		195.0		18.		4.16		4.09		34.0	
20 Dec 1983	# Ithaca	1300		MOE		1.06		30.0		25.0		26.		5.53		4.67		18.0	
22 Dec 1983	# Virginia	2100		91		1.11		3307.0		2850.0		22.		4.57		4.46		14.0	
	# Illinois	1830		NAP		1.17		502.0		640.0		25.		5.03		4.88		8.9	
	# Oxford	2000		15		1.11		533.0		620.0		17.		4.60		4.26		24.0	
23 Dec 1983	# Penn State	1330		NAP		1.09		1412.0		1450.0		25.		4.82		4.56		11.0	
	Brookhaven	1400		12		1.06		2930.0		2975.0		27.		4.59		4.05		18.0	
	Lewes	1700		NAP		1.09		1725.0		975.0		20.		5.06		4.88		30.0	
24 Dec 1983	# Penn State	1600		NAP		1.09		117.0		170.0		25.		4.35		4.23		25.0	
25 Dec 1983	# Ithaca	2200		2		1.06		405.0		910.0		26.		4.63		4.50		11.0	
27 Dec 1983	# Whiteface	1400		NAP		1.09		327.0		370.0		19.		4.44		4.32		18.0	

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

48/

	T I M E	L I D	A R R	S A M P	P R E D	F I E L D	F I E L D	L A B	C O N D U C T
	R M V D	O P E N	D A T E	V O L	V O L	P H	P H	P H	
	Z		MO.DA	ML	ML	C			UMRO/CM
27 Dec 1983 # Illinois	1630	NAP	ISA	3.7	ISA	ISA	ISA	ISA	18A
29 Dec 1983 # Whiteface	1500	NAP	1.09	723.0	670.0	10.	4.70	4.51	11.0
Penn State	1430	NAP	1.09	883.0	700.0	25.	4.59	4.44	15.0
# Illinois	1900	NAP	1.17	85.0	155.0	25.	4.37	4.38	24.0
Brookhaven	1430	4	1.06	1455.0	1530.0	27.	4.67	4.64	21.0
# Lewes	1600	NAP	1.09	1306.0	1240.0	19.	4.72	4.79	10.0
# Oxford	1730	8	1.11	572.0	550.0	19.	4.96	4.39	19.0
# Oak Ridge	1500	14	1.06	3688.0	3170.0	12.	4.44	4.47	15.0

MISSING DATA CODES:

NSC MEANS NO SAMPLE COLLECTED
ISA MEANS INSUFFICIENT SAMPLE FOR ANALYSIS
NAP MEANS NO ANALYSIS PERFORMED
MOE MEANS MALFUNCTION OR OPERATOR ERROR
RPC MEANS REJECTED - PROBABLE CONTAMINATION

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
1 Jan 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	31.0	NAP	49.0	32.00	<0.50
3 Jan 1983 # Whiteface	0.3	27.0	NAP	66.0	3.50	<0.20
# Virginia	<0.2	14.0	NAP	87.0	20.00	<0.20
# Oak Ridge	0.4	33.0	<0.05	13.0	12.00	<0.20
4 Jan 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Illinois	2.0	17.0	NAP	12.0	9.20	<0.20
6 Jan 1983 # Lewes	4.8	17.0	NAP	10.0	64.00	<0.20
7 Jan 1983 # Brookhaven	RPC	RPC	RPC	RPC	RPC	RPC
8 Jan 1983 # Whiteface	0.6	30.0	NAP	66.0	4.80	<0.20
10 Jan 1983 # Illinois	ISA	67.0	ISA	110.0	8.90	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	2.2	23.0	0.47	24.0	6.00	<0.20
11 Jan 1983 # Ithaca	ISA	17.0	NAP	27.0	7.30	<0.20
# Virginia	RPC	RPC	RPC	RPC	RPC	RPC
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	14.0	NAP	3.5	100.00	<0.20
# Lewes	<0.2	9.0	NAP	2.9	96.00	<0.20
# Oxford	4.9	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	42.0	0.13	29.0	8.60	<0.20
12 Jan 1983 # Whiteface	<0.2	6.4	<0.04	8.5	3.80	<0.20
# Penn State	2.0	15.0	NAP	29.0	8.90	4.00
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

42/

	(S O 2)	(S O 4 - -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 - -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
12 Jan 1983 # Lewes	9.7	38.0	0.38	120.0	99.00	<0.20
13 Jan 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Ithaca	ISA	8.3	NAP	30.0	19.00	<0.20
14 Jan 1983 # Oak Ridge	0.6	14.0	0.38	39.0	6.50	<0.20
15 Jan 1983 # Oxford	1.1	ISA	ISA	ISA	ISA	ISA
16 Jan 1983 # Penn State	0.4	17.0	NAP	91.0	10.00	<0.20
# Brookhaven	<0.2	10.0	NAP	11.0	52.00	<0.20
# Lewes	<0.2	11.0	0.26	49.0	15.00	<0.20
17 Jan 1983 # Whiteface	<0.2	3.4	0.00	12.0	4.20	<0.20
# Ithaca	<0.2	5.2	NAP	44.0	4.00	<0.20
20 Jan 1983 # Ithaca	<0.2	7.8	NAP	33.0	33.00	<0.20
22 Jan 1983 # Oxford	14.0	17.0	0.18	8.0	3.90	<0.20
24 Jan 1983 # Ithaca	<0.2	14.0	NAP	25.0	6.20	<0.20
# Penn State	6.4	18.0	NAP	31.0	17.00	<0.20
# Virginia	6.9	15.0	0.45	22.0	8.40	<0.20
# Illinois	<0.2	22.0	0.19	45.0	6.70	<0.20
# Brookhaven	<0.2	5.8	NAP	2.7	42.00	<0.20
# Lewes	<0.2	5.9	0.06	4.7	47.00	<0.20
# Oxford	1.6	26.0	0.51	59.0	8.30	<0.20
# Oak Ridge	1.1	33.0	0.16	7.5	9.40	<0.20
25 Jan 1983 # Whiteface	<0.2	2.9	0.14	5.6	3.40	<0.20
26 Jan 1983 # Whiteface	0.5	30.0	0.07	29.0	4.20	<0.20
27 Jan 1983 # Ithaca	ISA	29.0	NAP	86.0	27.00	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

43/

	(S O 2)	(S O 4 - -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 - -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
27 Jan 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA
30 Jan 1983 # Oxford	6.6	31.0	0.22	46.0	4.90	<0.20
31 Jan 1983 # Penn State	2.5	39.0	NAP	53.0	5.60	<0.20
# Virginia	ISA	ISA	ISA	ISA	ISA	ISA
# Illinois	3.9	39.0	0.50	37.0	6.80	<0.20
# Brookhaven	<0.2	16.0	0.20	12.0	26.00	<0.20
# Lewes	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	0.9	30.0	0.32	32.0	7.50	<0.20
1 Feb 1983 # Whiteface	<0.2	15.0	0.13	57.0	3.60	<0.20
# Ithaca	<0.2	47.0	NAP	100.0	14.00	<0.20
2 Feb 1983 # Illinois	7.5	19.0	0.18	23.0	2.10	<0.20
# Oxford	6.9	26.0	0.32	29.0	8.00	<0.20
# Oak Ridge	8.0	19.0	0.13	6.5	3.90	<0.20
3 Feb 1983 # Whiteface	<0.2	6.1	0.18	5.5	2.90	<0.20
# Penn State	2.3	10.0	NAP	25.0	5.80	<0.20
# Virginia	<0.2	32.0	0.17	30.0	21.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	8.1	<0.10	4.4	37.00	<0.20
# Lewes	<0.2	6.7	0.08	6.4	40.00	<0.20
4 Feb 1983 # Whiteface	2.0	16.0	0.07	16.0	3.50	<0.20
# Ithaca	1.9	14.0	0.15	25.0	12.00	<0.20
# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

44/

	(S O 2)	(S O 4 -)	(N O 2)	(N O 3)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
5 Feb 1983 # Penn State	ISA	ISA	ISA	ISA	ISA	ISA
7 Feb 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	<0.2	5.6	0.12	17.0	5.50	<0.20
# Illinois	<0.2	7.8	0.16	48.0	7.10	<0.20
# Brookhaven	<0.2	4.5	0.07	4.9	18.00	<0.20
# Lewes	<0.2	12.0	0.13	6.0	120.00	<0.20
# Oxford	<0.2	16.0	ISA	25.0	14.00	<0.20
8 Feb 1983 # Ithaca	<0.2	7.7	0.00	33.0	6.70	<0.20
# Penn State	<0.2	16.0	0.17	49.0	27.00	0.39
# Oak Ridge	2.8	17.0	0.15	12.0	6.10	<0.20
9 Feb 1983 # Whiteface	<0.2	1.7	0.06	2.9	3.10	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
11 Feb 1983 # Oak Ridge	11.0	29.0	0.20	16.0	3.00	<0.20
12 Feb 1983 # Penn State	<0.2	1.9	0.10	11.0	2.20	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
13 Feb 1983 # Virginia	<0.2	4.3	0.11	24.0	1.90	<0.20
# Brookhaven	<0.2	7.9	0.14	9.6	35.00	<0.20
# Lewes	NAP	54.0	0.06	6.1	1200.00	<0.20
15 Feb 1983 # Lewes	NAP	ISA	ISA	ISA	ISA	ISA
16 Feb 1983 # Ithaca	ISA	22.0	ISA	46.0	27.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
18 Feb 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	24.0	0.16	12.0	14.00	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

45/

	(S O 2)	(S O 4 -)	(N O 2)	(N O 3)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
18 Feb 1983 # Lewes	ISA	55.0	ISA	76.0	46.00	<0.20
23 Feb 1983 # Whiteface	1.0	110.0	0.06	260.0	22.00	<0.20
# Virginia	<0.2	17.0	0.71	16.0	12.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	2.0	29.0	0.10	3.1	6.90	<0.20
24 Feb 1983 # Brookhaven	<0.2	22.0	0.25	22.0	27.00	<0.20
# Lewes	<0.2	5.0	0.00	3.3	10.00	<0.20
25 Feb 1983 # Ithaca	<0.2	14.0	0.11	74.0	5.10	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	1.2	58.0	0.20	55.0	4.70	<0.20
26 Feb 1983 # Whiteface	0.3	14.0	0.16	56.0	52.00	<0.20
# Penn State	<0.2	18.0	0.35	93.0	33.00	<0.20
# Virginia	1.9	22.0	0.35	95.0	5.30	<0.20
2 Mar 1983 # Virginia	0.4	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	15.0	0.28	25.0	15.00	<0.20
# Lewes	<0.2	16.0	0.19	17.0	100.00	<0.20
4 Mar 1983 # Ithaca	ISA	120.0	0.53	260.0	22.00	<0.20
# Brookhaven	<0.2	ISA	ISA	ISA	29.00	0.73
6 Mar 1983 # Brookhaven	<0.2	130.0	0.85	280.0	84.00	<0.20
# Oxford	1.6	19.0	0.38	12.0	6.10	<0.20
7 Mar 1983 # Oxford	<0.2	37.0	0.15	27.0	12.00	<0.20
8 Mar 1983 # Whiteface	<0.2	21.0	0.14	18.0	6.60	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

46/

	(S O 2)	(S O 4 -)	(N O 2)	(N O 3)	(C L)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
8 Mar 1983 # Illinois	0.7	22.0	0.25	24.0	2.00	<0.20
# Brookhaven	<0.2	11.0	0.17	9.1	10.00	<0.20
# Oxford	<0.2	26.0	0.34	52.0	8.00	<0.20
9 Mar 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	8.5	0.07	4.4	15.00	<0.20
# Oak Ridge	<0.2	7.8	0.32	13.0	11.00	<0.20
10 Mar 1983 # Whiteface	<0.2	6.0	0.07	4.9	2.50	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
11 Mar 1983 # Ithaca	0.9	58.0	0.68	73.0	5.40	<0.20
# Penn State	4.8	38.0	0.21	30.0	9.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	17.0	0.15	13.0	4.00	0.24
# Lewes	<0.2	21.0	0.14	22.0	130.00	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
12 Mar 1983 # Virginia	<0.2	25.0	0.24	23.0	9.20	<0.20
# Brookhaven	<0.2	12.0	0.15	10.0	49.00	<0.20
13 Mar 1983 # Whiteface	<0.2	4.3	0.08	6.9	4.40	<0.20
# Lewes	1.7	21.0	0.17	31.0	150.00	<0.20
15 Mar 1983 # Lewes	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	0.1	79.0	0.21	79.0	11.00	<0.20
16 Mar 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Ithaca	ISA	62.0	0.60	79.0	8.40	<0.20
18 Mar 1983 # Illinois	0.9	22.0	0.33	23.0	3.00	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

47/

	(S O 2)	(S O 4 -)	(N O 2)	(N O 3)	(C L)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
18 Mar 1983 ‡ Oxford	6.0	25.0	0.26	24.0	0.20	<0.20
19 Mar 1983 ‡ Brookhaven	<0.2	15.0	0.06	7.0	140.00	<0.20
‡ Lewes	<0.2	16.0	0.05	6.2	220.00	<0.20
20 Mar 1983 ‡ Whiteface	<0.2	5.2	0.06	8.2	16.00	<0.20
‡ Penn State	<0.2	14.0	0.16	15.0	4.00	<0.20
‡ Virginia	<0.2	12.0	0.16	14.0	14.00	<0.20
21 Mar 1983 ‡ Ithaca	<0.2	17.0	0.16	22.0	6.60	<0.20
‡ Virginia	<0.2	23.0	0.24	12.0	4.50	<0.20
‡ Oxford	6.2	41.0	0.27	36.0	8.30	<0.20
‡ Oak Ridge	<0.2	19.0	0.21	15.0	3.60	<0.20
22 Mar 1983 ‡ Whiteface	<0.2	14.0	0.14	13.0	3.20	<0.20
‡ Ithaca	1.4	26.0	0.19	22.0	2.30	<0.20
‡ Penn State	<0.2	20.0	0.24	16.0	2.70	<0.20
‡ Illinois	1.4	19.0	0.09	19.0	1.30	<0.20
‡ Brookhaven	<0.2	37.0	0.40	35.0	51.00	<0.20
‡ Lewes	<0.2	25.0	0.19	21.0	93.00	<0.20
‡ Oxford	ISA	ISA	ISA	ISA	ISA	ISA
27 Mar 1983 ‡ Oxford	4.2	31.0	0.35	41.0	12.00	NAP
28 Mar 1983 ‡ Whiteface	<0.2	6.6	0.07	9.8	1.50	<0.20
‡ Penn State	<0.2	11.0	0.12	9.6	2.20	<0.20
‡ Virginia	<0.2	13.0	0.21	13.0	7.60	<0.20
‡ Illinois	3.5	30.0	0.30	39.0	5.30	<0.20
‡ Brookhaven	<0.2	12.0	0.09	8.0	59.00	<0.20

MAP35 PRECIPITATION CHEMISTRY DATA (CONT.)

48/

	(S O 2)	(S O 4 -)	(N O 2)	(N O 3)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
28 Mar 1983 # Lewes	<0.3	15.0	<0.05	9.1	130.00	<0.20
# Oxford	2.6	26.0	0.25	23.0	5.90	<0.20
29 Mar 1983 # Ithaca	<0.2	17.0	0.11	21.0	3.10	<0.20
# Penn State	<0.2	52.0	0.42	54.0	13.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	13.0	0.24	8.1	4.90	<0.20
30 Mar 1983 # Whiteface	<0.2	16.0	0.11	23.0	2.40	<0.20
31 Mar 1983 # Illinois	ISA	54.0	0.08	150.0	13.00	<0.20
# Oak Ridge	2.5	31.0	0.10	71.0	7.40	<0.20
1 Apr 1983 # Penn State	<0.2	ISA	ISA	ISA	ISA	ISA
# Virginia	3.4	ISA	ISA	ISA	ISA	ISA
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Lewes	<0.2	12.0	0.22	40.0	20.00	<0.20
2 Apr 1983 # Oxford	1.2	31.0	0.21	27.0	6.80	<0.20
3 Apr 1983 # Virginia	6.7	24.0	0.22	17.0	14.00	<0.20
# Lewes	<0.2	18.0	0.15	12.0	130.00	<0.20
4 Apr 1983 # Whiteface	<0.2	18.0	0.21	13.0	3.70	<0.20
# Ithaca	<0.2	14.0	0.30	25.0	2.30	<0.20
# Penn State	5.7	15.0	0.31	23.0	2.70	<0.20
# Illinois	1.6	31.0	0.17	31.0	4.30	<0.20
# Brookhaven	<0.2	23.0	0.12	13.0	87.00	<0.20
# Oxford	5.6	19.0	0.18	25.0	6.90	<0.20
# Oak Ridge	<0.2	19.0	0.21	15.0	2.90	<0.20

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
5 Apr 1983 # Whiteface	1.1	52.0	0.06	46.0	4.20	<0.20
# Illinois	NAP	63.0	ISA	60.0	24.00	<0.20
6 Apr 1983 # Illinois	0.9	44.0	0.17	44.0	6.20	<0.20
# Oxford	<0.2	50.0	0.25	69.0	9.70	<0.20
7 Apr 1983 # Illinois	<0.2	45.0	0.11	62.0	4.80	<0.20
# Oxford	0.4	RPC	RPC	RPC	RPC	RPC
# Oak Ridge	<0.2	7.1	0.10	6.7	1.60	<0.20
8 Apr 1983 # Whiteface	<0.2	34.0	<0.10	24.0	2.20	<0.20
# Ithaca	0.9	35.0	0.18	23.0	<2.00	<0.20
# Brookhaven	<0.2	20.0	0.12	27.0	19.00	<0.20
# Oxford	<0.2	13.0	0.12	12.0	1.50	<0.20
9 Apr 1983 # Brookhaven	<0.2	34.0	0.19	35.0	4.60	<0.20
# Lewes	<0.2	30.0	0.14	41.0	20.00	<0.20
10 Apr 1983 # Penn State	1.5	35.0	0.12	37.0	3.40	<0.20
# Brookhaven	<0.2	6.0	<0.10	2.5	21.00	<0.20
# Oxford	11.0	40.0	0.07	25.0	6.40	5.00
11 Apr 1983 # Ithaca	<0.2	8.3	0.10	9.5	<2.00	<0.20
# Virginia	<0.2	17.0	0.18	21.0	2.10	<0.20
# Brookhaven	<0.2	0.7	0.19	9.0	5.50	<0.20
# Oxford	1.4	27.0	0.16	21.0	4.30	<0.20
# Oak Ridge	<0.2	10.0	0.18	11.0	2.30	<0.20
12 Apr 1983 # Whiteface	<0.2	0.0	<0.10	7.3	1.90	<0.20
# Ithaca	2.0	57.0	0.32	50.0	5.10	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

58/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
12 Apr 1983 # Penn State	2.4	41.0	0.16	68.0	7.80	<0.20
# Illinois	1.0	37.0	0.20	49.0	4.30	<0.20
# Leves	<0.2	17.0	0.09	13.0	42.00	<0.20
13 Apr 1983 # Whiteface	<0.2	10.0	0.10	4.4	0.70	<0.20
# Illinois	<0.2	45.0	0.22	31.0	8.90	0.71
# Oxford	2.5	32.0	<0.10	32.0	6.40	<0.20
14 Apr 1983 # Illinois	1.8	21.0	0.15	16.0	5.70	<0.20
# Oxford	<0.2	35.0	0.07	25.0	4.60	<0.20
15 Apr 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	0.7	62.0	ISA	50.0	19.00	0.23
16 Apr 1983 # Whiteface	<0.2	32.0	0.10	34.0	33.00	<0.20
# Penn State	<0.2	29.0	0.27	23.0	12.00	<0.20
# Virginia	<0.2	17.0	0.10	8.4	12.00	<0.20
17 Apr 1983 # Ithaca	<0.2	13.0	0.14	15.0	<2.00	<0.20
# Brookhaven	<0.2	5.7	0.07	2.3	16.00	<0.20
# Leves	<0.2	8.8	0.07	2.0	46.00	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
18 Apr 1983 # Whiteface	<0.2	17.0	0.07	8.5	<2.00	<0.20
# Illinois	NAP	ISA	ISA	ISA	30.00	<0.20
# Leves	ISA	ISA	ISA	ISA	ISA	ISA
19 Apr 1983 # Whiteface	<0.2	11.0	0.06	12.0	8.30	<0.20
# Oak Ridge	8.4	31.0	0.07	17.0	7.90	0.60
20 Apr 1983 # Ithaca	<0.2	31.0	0.12	31.0	6.60	<0.20

		(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
20 Apr 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
	# Brookhaven	<0.2	17.0	0.15	29.0	60.00	<0.20
	# Lewes	2.5	27.0	0.17	68.0	61.00	<0.20
21 Apr 1983	# Whiteface	<0.2	29.0	0.10	15.0	16.00	<0.20
	# Ithaca	<0.2	24.0	0.10	17.0	4.30	<0.20
22 Apr 1983	# Whiteface	<0.2	28.0	0.09	16.0	18.00	<0.20
24 Apr 1983	# Oxford	<0.2	ISA	ISA	ISA	ISA	ISA
25 Apr 1983	# Whiteface	<0.2	19.0	0.18	23.0	4.00	<0.20
	# Penn State	<0.2	15.0	0.15	10.0	4.30	<0.20
	# Virginia	<0.2	14.0	0.21	11.0	1.70	<0.20
	# Brookhaven	<0.2	20.0	0.10	8.3	34.00	<0.20
	# Oak Ridge	7.2	33.0	<0.10	16.0	6.20	<0.20
26 Apr 1983	# Whiteface	<0.2	4.7	0.00	7.1	1.70	<0.20
	# Ithaca	<0.2	21.0	0.13	16.0	1.80	<0.20
	# Penn State	<0.2	56.0	0.19	31.0	7.60	<0.20
	# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA
	# Lewes	<0.2	18.0	0.06	10.0	120.00	<0.20
27 Apr 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
28 Apr 1983	# Whiteface	0.2	85.0	1.00	100.0	11.00	<0.20
	# Illinois	<0.2	34.0	0.20	32.0	5.00	<0.20
	# Oxford	0.8	48.0	0.24	26.0	11.00	<0.20
29 Apr 1983	# Whiteface	<0.2	59.0	0.33	79.0	7.40	<0.20
1 May 1983	# Whiteface	<0.2	32.0	0.16	25.0	4.40	<0.20

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
1 May 1983 # Oxford	<0.2	27.0	0.11	13.0	4.40	<0.20
2 May 1983 # Whiteface	<0.2	30.0	0.18	29.0	9.10	<0.20
# Ithaca	<0.2	35.0	0.15	29.0	3.10	<0.20
# Illinois	<0.2	20.0	0.10	13.0	2.40	<0.20
# Oxford	<0.2	35.0	0.11	21.0	12.00	<0.20
# Oak Ridge	<0.2	43.0	0.24	40.0	17.00	<0.20
3 May 1983 # Whiteface	<0.2	14.0	0.12	10.0	3.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	<0.2	13.0	0.06	10.0	2.40	<0.20
4 May 1983 # Whiteface	<0.2	33.0	0.09	27.0	4.30	<0.20
# Ithaca	<0.2	22.0	0.10	24.0	5.90	<0.20
# Penn State	<0.2	32.0	0.21	25.0	6.20	<0.20
# Virginia	<0.2	11.0	0.25	15.0	6.30	<0.20
# Brookhaven	<0.2	16.0	0.22	17.0	21.00	<0.20
# Lewes	<0.2	6.0	0.24	5.0	11.00	<0.20
# Oxford	<0.2	92.0	0.05	70.0	9.80	<0.20
# Oak Ridge	<0.2	32.0	0.11	23.0	23.00	<0.20
5 May 1983 # Whiteface	<0.2	24.0	0.11	21.0	2.90	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
6 May 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA
8 May 1983 # Oxford	<0.2	33.0	0.23	21.0	5.20	<0.20
9 May 1983 # Ithaca	<0.2	27.0	0.10	19.0	<2.00	0.20
# Penn State	<0.2	55.0	0.10	47.0	6.40	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

53/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
9 May 1983 # Virginia	<0.2	16.0	0.18	14.0	4.80	<0.20
# Illinois	0.4	33.0	0.32	25.0	8.80	<0.20
# Brookhaven	<0.2	65.0	0.38	94.0	46.00	<0.20
# Oak Ridge	<0.2	32.0	0.15	20.0	5.20	<0.20
10 May 1983 # Whiteface	<0.2	7.0	0.00	7.5	1.70	<0.20
11 May 1983 # Whiteface	<0.2	4.6	0.13	9.1	6.90	<0.20
15 May 1983 # Penn State	<0.2	35.0	0.10	26.0	4.60	<0.20
# Brookhaven	<0.2	17.0	0.20	10.0	15.00	<0.20
# Oxford	<0.2	31.0	0.13	22.0	5.20	<0.20
16 May 1983 # Whiteface	<0.2	24.0	0.07	16.0	2.70	<0.20
# Ithaca	<0.2	24.0	0.07	20.0	<2.00	<0.20
# Oak Ridge	<0.2	25.0	0.08	22.0	6.00	<0.20
17 May 1983 # Penn State	<0.2	40.0	0.07	35.0	6.60	<0.20
# Virginia	<0.2	21.0	0.09	14.0	4.80	<0.20
# Brookhaven	<0.2	11.0	0.12	11.0	15.00	<0.20
# Lewes	<0.2	33.0	0.22	23.0	02.00	<0.20
19 May 1983 # Illinois	<0.2	29.0	0.13	22.0	7.00	<0.20
# Oxford	<0.2	22.0	0.12	18.0	8.20	<0.20
# Oak Ridge	<0.2	7.4	0.07	5.5	4.50	<0.20
20 May 1983 # Whiteface	<0.2	25.0	0.07	33.0	4.50	<0.20
# Ithaca	<0.2	24.0	0.08	32.0	16.00	<0.20
# Penn State	<0.2	23.0	0.13	27.0	17.00	<0.20
# Lewes	<0.2	9.9	0.14	7.6	30.00	<0.20

	(S O ₂)	(S O ₄)	(N O ₂)	(N O ₃)	(C L)	(P O ₄)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
21 May 1983 # Brookhaven	<0.2	27.0	0.10	20.0	110.00	0.90
22 May 1983 # Oxford	1.1	18.0	0.10	11.0	4.20	<0.20
23 May 1983 # Whiteface	<0.2	16.0	<0.10	31.0	4.00	<0.20
# Ithaca	<0.2	19.0	0.13	17.0	4.80	<0.20
# Penn State	<0.2	29.0	0.16	22.0	5.70	<0.20
# Virginia	<0.2	16.0	0.14	19.0	13.00	<0.20
# Illinois	<0.2	32.0	0.21	29.0	3.60	<0.20
# Brookhaven	<0.2	19.0	0.24	24.0	6.40	<0.20
# Lewes	<0.2	20.0	0.10	16.0	11.00	<0.20
# Oak Ridge	<0.2	30.0	<0.10	21.0	13.00	<0.20
24 May 1983 # Whiteface	<0.2	25.0	0.10	20.0	2.00	<0.20
# Penn State	MOE	MOE	MOE	MOE	MOE	MOE
# Oak Ridge	<0.2	37.0	<0.10	37.0	3.90	<0.20
25 May 1983 # Whiteface	<0.2	ISA	ISA	ISA	ISA	ISA
# Illinois	ISA	77.0	ISA	69.0	10.00	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
26 May 1983 # Whiteface	<0.2	52.0	0.27	69.0	7.40	<0.20
# Ithaca	<0.2	39.0	0.16	40.0	4.90	0.40
# Oxford	RPC	RPC	RPC	RPC	RPC	RPC
27 May 1983 # Whiteface	<0.2	22.0	0.10	27.0	2.20	<0.20
# Virginia	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	<0.2	29.0	0.24	28.0	26.00	0.10
# Lewes	<0.2	41.0	0.24	40.0	17.00	<0.20

		(S O 2)	(S O 4 - -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 - - -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
28 May 1983	# Whiteface	<0.2	27.0	0.07	26.0	3.60	<0.20
	# Oxford	<0.2	40.0	1.00	34.0	7.00	<0.20
30 May 1983	# Whiteface	<0.2	24.0	0.11	19.0	3.00	<0.20
	# Penn State	<0.2	53.0	0.33	57.0	7.30	<0.20
	# Virginia	<0.2	80.0	0.50	77.0	12.00	<0.20
	# Brookhaven	<0.2	19.0	0.10	27.0	35.00	<0.20
	# Oxford	<0.2	35.0	0.29	31.0	9.30	0.32
31 May 1983	# Whiteface	<0.2	21.0	0.10	11.0	2.80	<0.20
	# Ithaca	<0.2	50.0	0.15	55.0	7.80	<0.20
	# Illinois	<0.2	29.0	0.30	27.0	2.60	<0.20
	# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA
	# Lewes	<0.2	24.0	0.15	29.0	20.00	<0.20
	# Oak Ridge	<0.2	16.0	0.32	19.0	3.30	<0.20
1 Jun 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
	# Ithaca	1.6	30.0	0.14	29.0	2.10	<0.20
	# Penn State	<0.2	47.0	0.34	31.0	5.40	<0.20
	# Brookhaven	<0.2	40.0	0.09	51.0	10.00	<0.20
2 Jun 1983	# Penn State	MOE	MOE	MOE	MOE	MOE	MOE
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
	# Lewes	<0.2	59.0	0.20	63.0	27.00	<0.20
3 Jun 1983	# Oxford	5.2	41.0	0.26	20.0	3.70	<0.20
4 Jun 1983	# Penn State	<0.2	40.0	0.20	35.0	2.60	<0.20
	# Virginia	<0.2	41.0	0.40	42.0	6.10	<0.20

	(S O ₂)	(S O ₄ -)	(N O ₂ -)	(N O ₃ -)	(C L -)	(P O ₄ -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
4 Jun 1983 # Brookhaven	<0.2	45.0	0.22	39.0	33.00	<0.20
5 Jun 1983 # Whiteface	<0.2	35.0	0.29	20.0	2.20	<0.20
6 Jun 1983 # Ithaca	ISA	44.0	0.23	60.0	7.70	<0.20
# Illinois	<0.2	36.0	0.31	38.0	3.80	<0.20
# Lewes	<0.2	57.0	0.19	50.0	21.00	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	25.0	0.30	10.0	4.10	<0.20
7 Jun 1983 # Whiteface	<0.2	29.0	0.14	15.0	4.30	<0.20
# Ithaca	<0.2	70.0	0.09	50.0	6.00	<0.20
# Penn State	<0.2	110.0	<0.10	65.0	8.90	<0.20
# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	19.0	0.24	33.0	3.20	<0.20
8 Jun 1983 # Lewes	<0.2	20.0	0.22	20.0	16.00	<0.20
11 Jun 1983 # Whiteface	<0.2	110.0	<0.10	140.0	11.00	<0.20
14 Jun 1983 # Penn State	<0.2	MOE	MOE	MOE	MOE	MOE
15 Jun 1983 # Illinois	<0.2	13.0	0.20	14.0	<2.00	<0.20
16 Jun 1983 # Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	<0.2	60.0	0.30	45.0	5.90	<0.20
17 Jun 1983 # Whiteface	<0.2	54.0	<0.10	24.0	2.30	<0.20
# Ithaca	<0.2	100.0	0.20	47.0	7.00	<0.20
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
18 Jun 1983 # Ithaca	<0.2	60.0	0.19	34.0	5.20	<0.20
19 Jun 1983 # Whiteface	<0.2	49.0	<0.10	32.0	1.80	<0.20

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
19 Jun 1983 # Penn State	MOE	MOE	MOE	MOE	MOE	MOE
# Lewes	<0.2	29.0	0.21	51.0	33.00	<0.20
# Oxford	<0.2	28.0	0.43	21.0	2.70	<0.20
20 Jun 1983 # Illinois	<0.2	71.0	0.50	61.0	6.00	<0.20
# Oxford	<0.2	97.0	0.35	91.0	7.40	<0.20
21 Jun 1983 # Penn State	<0.2	42.0	0.00	24.0	1.90	<0.20
# Brookhaven	<0.2	130.0	0.47	73.0	12.00	<0.20
# Oak Ridge	<0.2	65.0	0.50	52.0	0.60	<0.20
22 Jun 1983 # Virginia	<0.2	24.0	0.30	22.0	2.40	<0.20
# Lewes	<0.2	20.0	<0.10	17.0	19.00	<0.20
23 Jun 1983 # Oak Ridge	<0.2	89.0	0.48	63.0	10.00	<0.20
25 Jun 1983 # Whiteface	<0.2	12.0	ISA	23.0	2.90	<0.40
26 Jun 1983 # Whiteface	<0.2	18.0	<0.10	17.0	2.70	<0.40
27 Jun 1983 # Whiteface	<0.2	40.0	<0.10	31.0	2.60	<0.40
28 Jun 1983 # Whiteface	<0.2	22.0	<0.10	19.0	1.00	<0.40
# Illinois	<0.2	22.0	0.34	29.0	2.70	<0.20
# Oxford	<0.2	43.0	0.41	34.0	4.10	<0.20
# Oak Ridge	<0.2	34.0	0.21	19.0	2.80	<0.20
29 Jun 1983 # Ithaca	<0.2	38.0	0.15	20.0	2.70	<0.20
# Penn State	<0.2	54.0	0.20	37.0	5.10	<0.20
# Illinois	<0.2	31.0	0.23	78.0	6.30	<0.20
# Brookhaven	<0.2	27.0	0.22	23.0	7.00	<0.20
# Lewes	<0.2	46.0	0.28	29.0	48.00	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

58/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
30 Jun 1983 # Illinois	<0.2	39.0	0.30	26.0	3.30	<0.20
# Oxford	<0.2	18.0	0.38	21.0	4.40	<0.20
1 Jul 1983 # Virginia	<0.2	85.0	0.35	79.0	19.00	<0.20
# Oxford	<0.2	56.0	0.59	42.0	12.00	<0.20
2 Jul 1983 # Virginia	<0.2	8.5	0.22	8.0	2.20	<0.20
3 Jul 1983 # Whiteface	<0.2	59.0	<0.10	63.0	4.40	<0.40
5 Jul 1983 # Virginia	<0.2	17.0	0.36	32.0	6.20	<0.20
# Illinois	<0.2	37.0	0.36	19.0	5.60	<0.20
# Oxford	<0.5	16.0	0.27	11.0	5.60	0.19
# Oak Ridge	<0.2	32.0	0.27	21.0	5.30	<0.20
6 Jul 1983 # Ithaca	ISA	58.0	0.15	74.0	6.20	<0.20
# Virginia	<0.2	12.0	0.20	7.4	1.50	<0.20
# Brookhaven	<0.2	32.0	0.32	25.0	2.20	<0.20
# Lewes	<0.2	33.0	0.34	35.0	9.40	<0.20
7 Jul 1983 # Whiteface	<0.2	26.0	0.16	25.0	24.00	0.36
# Lewes	<0.2	67.0	0.42	76.0	27.00	<0.20
9 Jul 1983 # Whiteface	<0.5	30.0	0.19	32.0	6.00	0.15
11 Jul 1983 # Ithaca	ISA	100.0	0.08	94.0	9.60	<0.20
12 Jul 1983 # Whiteface	<0.5	55.0	ISA	50.0	5.30	<0.20
13 Jul 1983 # Oxford	<0.5	98.0	1.80	140.0	14.00	<0.20
15 Jul 1983 # Whiteface	<0.2	16.0	0.24	23.0	11.00	1.80
18 Jul 1983 # Penn State	<0.2	97.0	0.11	59.0	9.00	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA

		(S O 2)	(S O 4 - -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 - -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
19 Jul 1983	# Ithaca	ISA	79.0	ISA	69.0	11.00	<0.20
	# Lewes	<0.2	57.0	0.47	51.0	23.00	<0.20
	# Oxford	<0.5	47.0	0.46	35.0	5.20	<0.20
	# Oak Ridge	<0.2	96.0	0.61	70.0	7.90	<0.20
20 Jul 1983	# Penn State	<0.2	26.0	ISA	28.0	15.00	<0.20
	# Virginia	<0.2	54.0	0.39	43.0	7.60	<0.20
	# Brookhaven	<0.2	50.0	0.45	58.0	7.80	<0.20
	# Oxford	<0.5	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	<0.2	250.0	0.40	130.0	18.00	1.10
21 Jul 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
	# Virginia	<0.2	49.0	0.35	39.0	6.80	<0.20
	# Oak Ridge	<0.2	150.0	0.18	85.0	13.00	<0.20
22 Jul 1983	# Whiteface	<0.2	11.0	0.18	8.7	9.60	<0.20
	# Ithaca	<0.2	29.0	0.19	33.0	4.30	<0.20
	# Penn State	<0.2	4.0	ISA	5.4	2.80	<0.20
	# Virginia	<0.2	50.0	0.30	40.0	4.40	<0.20
	# Brookhaven	<0.2	27.0	0.46	37.0	6.90	<0.20
	# Lewes	<0.2	120.0	0.38	91.0	160.00	<0.20
24 Jul 1983	# Whiteface	<0.5	44.0	0.30	35.0	27.00	<0.20
	# Penn State	<0.2	69.0	0.19	33.0	5.70	<0.20
	# Brookhaven	<0.2	23.0	0.31	14.0	3.40	<0.20
	# Lewes	<0.2	ISA	ISA	ISA	ISA	ISA
25 Jul 1983	# Ithaca	<0.2	19.0	0.15	17.0	1.10	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

60/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
25 Jul 1983 # Virginia	<0.2	ISA	ISA	ISA	ISA	ISA
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	RPC	RPC	RPC	RPC	RPC	RPC
# Oak Ridge	<0.2	45.0	0.35	41.0	6.00	<0.20
29 Jul 1983 # Illinois	<0.2	87.0	0.00	55.0	11.00	<0.20
30 Jul 1983 # Whiteface	<0.2	27.0	0.18	17.0	2.90	<0.20
31 Jul 1983 # Brookhaven	<0.2	47.0	0.63	40.0	4.90	<0.20
1 Aug 1983 # Whiteface	<0.2	41.0	0.00	25.0	2.90	<0.20
# Ithaca	<0.2	44.0	0.34	29.0	2.00	<0.20
# Illinois	NAP	57.0	0.16	53.0	16.00	<0.20
# Oxford	NAP	120.0	0.52	100.0	17.00	1.80
2 Aug 1983 # Whiteface	<0.2	19.0	0.24	26.0	1.90	<0.20
# Penn State	<0.2	40.0	0.00	20.0	6.70	<0.20
# Brookhaven	<0.5	56.0	0.50	70.0	66.00	<0.20
# Lewes	<0.2	23.0	0.39	18.0	9.00	<0.20
# Oak Ridge	<0.2	20.0	0.26	12.0	13.00	<0.20
3 Aug 1983 # Whiteface	<0.2	18.0	0.34	15.0	2.80	<0.20
# Ithaca	<0.2	30.0	0.32	22.0	<1.00	<0.20
# Virginia	<0.2	61.0	0.33	42.0	6.40	<0.20
5 Aug 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	<0.2	ISA	ISA	ISA	ISA	ISA
# Illinois	<0.3	43.0	0.18	59.0	4.60	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

61/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
6 Aug 1983 # Whiteface	<0.2	71.0	0.15	25.0	<1.00	<0.20
# Virginia	<0.2	71.0	0.27	31.0	4.70	<0.20
# Oxford	<0.2	92.0	0.34	100.0	11.00	<0.20
7 Aug 1983 # Virginia	<0.2	92.0	0.26	39.0	8.50	<0.20
8 Aug 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Ithaca	ISA	120.0	0.15	96.0	8.00	<0.20
# Oxford	<0.2	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	110.0	0.12	66.0	5.90	<0.20
9 Aug 1983 # Whiteface	<0.2	20.0	<0.05	13.0	1.00	0.46
# Ithaca	ISA	19.0	ISA	28.0	2.40	<0.20
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	180.0	0.20	77.0	11.00	1.40
10 Aug 1983 # Virginia	<0.2	49.0	0.16	23.0	4.20	<0.20
# Brookhaven	<0.2	130.0	0.31	87.0	18.00	<0.20
11 Aug 1983 # Illinois	<0.3	42.0	0.40	63.0	5.10	<0.20
# Lewes	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	<0.2	68.0	0.25	32.0	5.60	<0.20
12 Aug 1983 # Whiteface	<0.2	13.0	0.21	13.0	0.70	<0.20
# Ithaca	0.8	38.0	0.20	39.0	3.70	<0.20
# Penn State	<0.2	100.0	<0.05	50.0	8.60	<0.20
# Virginia	<0.2	86.0	0.17	27.0	4.20	<0.20
# Lewes	<0.2	67.0	0.11	29.0	15.00	<0.20
# Oak Ridge	<0.2	35.0	<0.05	34.0	7.20	<0.20

MAP38 PRECIPITATION CHEMISTRY DATA (CONT.)

62/

	(S O ₂)	(S O ₄)	(N O ₂)	(N O ₃)	(C L)	(P O ₄)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
13 Aug 1983 # Brookhaven	<0.2	33.0	0.10	21.0	12.00	<0.20
14 Aug 1983 # Lewes	ISA	33.0	0.38	77.0	29.00	<0.20
17 Aug 1983 # Illinois	<0.3	32.0	0.40	46.0	4.80	<0.20
18 Aug 1983 # Ithaca	<0.2	190.0	0.45	130.0	13.00	<0.20
# Penn State	<0.2	150.0	0.37	95.0	9.00	<0.20
# Virginia	<0.2	23.0	0.17	28.0	4.10	<0.20
# Oxford	<0.2	ISA	ISA	ISA	ISA	ISA
20 Aug 1983 # Whiteface	ISA	130.0	0.12	130.0	12.00	<0.20
22 Aug 1983 # Penn State	ISA	ISA	ISA	ISA	ISA	ISA
23 Aug 1983 # Whiteface	<0.2	15.0	0.17	7.9	<0.50	<0.20
# Ithaca	<0.2	74.0	0.29	47.0	5.50	<0.20
# Illinois	<0.3	18.0	0.12	10.0	2.20	<0.20
# Lewes	<0.2	120.0	0.22	68.0	120.00	<0.20
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA
24 Aug 1983 # Virginia	<0.2	94.0	0.34	54.0	6.70	<0.20
26 Aug 1983 # Illinois	<0.3	31.0	0.32	26.0	3.40	<0.20
27 Aug 1983 # Oxford	ISA	ISA	ISA	ISA	ISA	ISA
28 Aug 1983 # Whiteface	<0.2	74.0	0.27	60.0	5.30	<0.20
# Penn State	<0.2	ISA	ISA	ISA	ISA	ISA
29 Aug 1983 # Ithaca	ISA	ISA	ISA	ISA	ISA	ISA
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	<0.2	100.0	0.25	81.0	8.70	<0.20
# Illinois	<0.3	70.0	0.08	48.0	4.40	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

63/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
29 Aug 1983 # Brookhaven	<0.2	31.0	0.18	41.0	22.00	<0.20
# Lewes	<0.2	23.0	0.21	13.0	5.70	<0.20
# Oxford	<0.2	53.0	0.22	49.0	5.50	<0.20
30 Aug 1983 # Lewes	ISA	40.0	0.31	60.0	88.00	<0.20
31 Aug 1983 # Whiteface	<0.2	12.0	0.10	11.0	1.60	0.20
# Ithaca	<0.2	41.0	0.20	33.0	5.10	<0.20
1 Sep 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
# Penn State	<0.2	110.0	0.35	99.0	13.00	<0.20
# Virginia	<0.2	43.0	0.43	20.0	3.90	<0.20
# Brookhaven	0.5	27.0	0.20	26.0	5.60	<0.20
# Lewes	<0.2	41.0	0.32	24.0	13.00	<0.20
6 Sep 1983 # Penn State	<0.3	110.0	0.50	81.0	29.00	<0.20
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	<0.2	36.0	0.63	24.0	7.10	<0.20
7 Sep 1983 # Whiteface	<0.5	36.0	0.12	26.0	2.30	<0.20
# Ithaca	ISA	92.0	0.36	57.0	6.20	<0.20
Illinois	ISA	87.0	1.10	90.0	16.00	0.36
8 Sep 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA
12 Sep 1983 # Whiteface	<0.5	91.0	<0.08	100.0	12.00	<0.20
# Penn State	<0.3	120.0	0.42	100.0	15.00	<0.20
Illinois	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	<0.3	22.0	0.20	24.0	3.80	<0.20
13 Sep 1983 # Brookhaven	<0.3	51.0	0.40	67.0	12.00	<0.20

		(S O ₂)	(S O ₄)	(N O ₂)	(N O ₃)	(C L)	(P O ₄)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
14 Sep 1983	# Penn State	<0.3	36.0	<0.08	31.0	5.60	<0.20
	# Virginia	<0.5	54.0	<0.08	45.0	4.20	<0.20
	# Lewes	<0.3	70.0	0.32	66.0	55.00	<0.20
	Oak Ridge	<0.2	12.0	0.32	9.4	<2.00	<0.20
16 Sep 1983	Illinois	<0.2	72.0	0.60	92.0	8.80	<0.20
	# Oxford	<0.3	110.0	0.56	80.0	8.30	<0.20
17 Sep 1983	# Penn State	<0.3	44.0	0.12	45.0	7.00	<0.20
	# Brookhaven	<0.3	ISA	ISA	ISA	ISA	ISA
18 Sep 1983	# Whiteface	<0.5	29.0	0.08	29.0	6.40	<0.20
	# Brookhaven	<0.3	110.0	0.48	140.0	64.00	<0.20
19 Sep 1983	# Whiteface	<0.5	32.0	<0.00	28.0	2.00	<0.20
	# Ithaca	ISA	82.0	0.24	93.0	35.00	<0.20
20 Sep 1983	Illinois	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	<0.3	30.0	0.36	14.0	3.50	<0.20
21 Sep 1983	Illinois	<0.2	27.0	0.24	23.0	3.60	<0.20
	# Oxford	2.1	14.0	0.24	12.0	<2.00	<0.20
22 Sep 1983	# Whiteface	<0.5	3.1	0.08	3.2	<1.00	<0.20
	# Ithaca	0.6	14.0	0.18	7.9	1.20	<0.20
	# Penn State	<0.3	8.9	0.16	6.1	<2.00	<0.20
	# Virginia	<0.5	16.0	0.24	15.0	2.30	<0.20
	# Brookhaven	<0.3	7.9	<0.08	4.0	30.00	<0.20
	# Lewes	<0.3	14.0	0.12	7.6	89.00	<0.20
	Oak Ridge	<0.2	15.0	0.16	9.3	2.70	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

65/

		(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
23 Sep 1983	# Whiteface	<0.5	26.0	ISA	38.0	1.90	<0.20
	# Oxford	<0.3	ISA	ISA	ISA	ISA	ISA
26 Sep 1983	# Ithaca	ISA	36.0	0.17	53.0	8.70	<0.20
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA
27 Sep 1983	# Whiteface	<0.5	89.0	ISA	120.0	6.30	<0.20
1 Oct 1983	Penn State	<0.3	7.7	0.20	7.9	3.10	0.63
	# Virginia	<0.5	4.8	0.20	9.9	<2.00	<0.20
	Lewes	<0.3	12.0	<0.08	3.9	130.00	<0.20
2 Oct 1983	Brookhaven	<0.3	11.0	0.08	6.1	66.00	<0.20
3 Oct 1983	Lewes	<0.5	29.0	0.12	15.0	14.00	<0.20
4 Oct 1983	Oxford	<0.2	12.0	0.36	8.0	1.60	<0.20
5 Oct 1983	Oxford	2.2	17.0	0.26	18.0	1.70	<0.20
6 Oct 1983	Whiteface	<0.2	30.0	0.06	15.0	1.50	<0.20
	# Ithaca	0.9	42.0	0.24	32.0	3.70	<0.20
	Penn State	<0.2	53.0	<0.05	37.0	5.50	<0.20
	Brookhaven	<0.2	68.0	0.31	70.0	56.00	<0.20
	Lewes	ISA	ISA	ISA	ISA	ISA	ISA
	Oak Ridge	<0.2	13.0	0.40	7.6	1.80	<0.20
7 Oct 1983	Whiteface	<0.2	25.0	<0.10	20.0	2.90	<0.20
	Ithaca	MOE	41.0	0.60	59.0	6.30	<0.20
9 Oct 1983	Whiteface	<0.2	51.0	<0.10	61.0	4.90	<0.20
10 Oct 1983	Illinois	ISA	59.0	1.30	69.0	9.20	<0.20
12 Oct 1983	Virginia	<0.2	21.0	0.10	15.0	46.00	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

66/

		(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
12 Oct 1983	Illinois	2.2	13.0	0.20	13.0	4.10	<0.20
	Lewes	<0.2	12.0	<0.10	1.5	260.00	<0.20
13 Oct 1983	Whiteface	<0.2	2.9	<0.10	5.5	8.70	<0.20
	# Ithaca	<0.2	14.0	0.00	18.0	18.00	<0.20
	Penn State	<0.2	28.0	0.16	33.0	30.00	<0.20
	Illinois	ISA	15.0	ISA	18.0	4.10	<0.20
	# Oxford	1.9	12.0	0.14	12.0	1.50	<0.20
14 Oct 1983	# Whiteface	RPC	RPC	RPC	RPC	RPC	RPC
	Ithaca	<0.2	5.0	0.11	6.1	0.90	<0.20
	Penn State	<0.2	5.7	<0.05	3.9	<2.00	<0.20
	Virginia	<0.2	7.5	0.10	8.0	3.10	<0.20
	Illinois	1.3	28.0	0.47	32.0	4.60	<0.20
	# Brookhaven	MOE	MOE	MOE	MOE	MOE	MOE
	Lewes	<0.2	15.0	0.16	7.5	25.00	<0.20
	# Oak Ridge	<0.2	12.0	0.19	6.1	2.00	<0.20
16 Oct 1983	Oxford	1.2	ISA	ISA	ISA	ISA	ISA
17 Oct 1983	# Whiteface	<0.2	14.0	<0.10	20.0	2.60	<0.20
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA
18 Oct 1983	Illinois	ISA	56.0	ISA	57.0	6.70	<0.20
19 Oct 1983	Penn State	<0.2	22.0	<0.05	25.0	2.20	<0.20
	Brookhaven	<0.2	36.0	0.25	55.0	21.00	<0.20
	Oxford	1.0	28.0	0.30	27.0	2.40	<0.20
21 Oct 1983	Ithaca	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

67/

		(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
21 Oct 1983	Lewes	ISA	ISA	ISA	ISA	ISA	ISA
22 Oct 1983	# Virginia	1.0	23.0	0.07	23.0	11.00	1.50
23 Oct 1983	# Oxford	4.0	16.0	0.15	15.0	2.10	<0.20
24 Oct 1983	# Whiteface	<0.2	4.7	0.13	13.0	1.70	<0.20
	Ithaca	<0.2	13.0	0.16	13.0	0.97	<0.20
	Penn State	<0.2	8.3	0.18	16.0	3.40	<0.20
	# Virginia	<0.2	1.6	0.13	2.8	<1.00	<0.20
	Illinois	3.2	20.0	0.15	13.0	1.10	<0.20
	Brookhaven	<0.2	4.6	0.09	2.7	35.00	<0.20
	Oxford	<0.2	ISA	ISA	ISA	ISA	ISA
25 Oct 1983	Penn State	ISA	ISA	ISA	ISA	ISA	ISA
	Virginia	MOE	22.0	0.18	80.0	1.70	<0.20
	Oak Ridge	<0.2	6.0	0.21	8.4	2.50	<0.20
26 Oct 1983	Penn State	<0.2	42.0	0.23	56.0	4.20	<0.20
	Lewes	<0.2	7.8	0.06	5.3	76.00	<0.20
27 Oct 1983	Ithaca	2.3	13.0	0.16	21.0	2.90	<0.20
28 Oct 1983	# Whiteface	<0.2	16.0	0.13	17.0	2.30	<0.20
30 Oct 1983	Penn State	ISA	ISA	ISA	ISA	ISA	ISA
31 Oct 1983	# Whiteface	1.3	22.0	0.31	47.0	2.40	<0.20
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA
3 Nov 1983	Illinois	0.7	20.0	0.22	16.0	4.00	<0.20
	# Oxford	MOE	40.0	0.20	53.0	11.00	<0.20
4 Nov 1983	# Whiteface	<0.2	9.6	0.14	5.1	4.10	<0.20

		(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
4 Nov 1983	Ithaca	0.9	23.0	0.25	42.0	2.00	<0.20
	# Penn State	1.2	25.0	0.24	35.0	4.30	0.85
	Brookhaven	2.3	19.0	0.44	35.0	17.00	<0.20
	Lewes	2.7	46.0	0.25	64.0	140.00	<0.20
	Oxford	<0.2	ISA	ISA	ISA	ISA	ISA
	Oak Ridge	2.4	29.0	0.21	30.0	6.30	<0.20
7 Nov 1983	# Whiteface	<0.2	5.9	0.14	6.7	<1.00	<0.20
	# Ithaca	1.1	8.1	0.12	20.0	3.80	<0.20
	# Penn State	<0.2	8.3	0.04	38.0	2.90	<0.20
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA
11 Nov 1983	# Penn State	4.5	14.0	0.12	21.0	3.10	0.25
	Virginia	0.4	8.5	0.17	7.1	4.20	<0.20
	Illinois	2.1	18.0	0.31	22.0	3.00	<0.20
	Lewes	<0.2	15.0	0.07	13.0	140.00	<0.20
	Oak Ridge	1.1	22.0	0.25	29.0	4.80	<0.20
12 Nov 1983	Lewes	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	1.2	16.0	0.16	15.0	1.70	<0.20
13 Nov 1983	# Whiteface	<0.2	12.0	0.10	11.0	1.20	<0.20
	# Ithaca	1.2	15.0	0.13	23.0	3.40	<0.20
	# Penn State	ISA	6.3	ISA	18.0	0.96	<0.20
14 Nov 1983	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA
	Brookhaven	<0.2	10.0	0.16	0.5	7.60	<0.20
15 Nov 1983	Illinois	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

69/

		(S O 2)	(S O 4 - -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 - -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
15 Nov 1983	Oak Ridge	2.0	20.0	0.33	19.0	4.10	<0.20
16 Nov 1983	Ithaca	3.0	16.0	0.24	14.0	4.00	<0.20
	# Penn State	1.5	11.0	0.30	20.0	3.40	<0.20
	Virginia	4.6	16.0	0.57	31.0	2.90	<0.20
	# Illinois	<0.2	32.0	0.23	02.0	4.60	<0.20
	Lewes	<0.2	10.0	0.19	16.0	110.00	<0.20
	Oxford	9.7	15.0	0.29	25.0	7.00	<0.20
17 Nov 1983	Brookhaven	<0.2	5.2	0.11	2.5	27.00	<0.20
	Lewes	ISA	ISA	ISA	ISA	ISA	ISA
18 Nov 1983	# Whiteface	<0.2	4.8	0.09	6.1	<1.00	<0.20
	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
19 Nov 1983	# Ithaca	<0.2	7.2	0.16	26.0	1.00	<0.20
	Penn State	ISA	ISA	ISA	ISA	ISA	ISA
20 Nov 1983	# Oxford	<0.5	23.0	0.24	20.0	16.00	<0.20
21 Nov 1983	# Whiteface	0.6	4.7	0.12	8.1	<1.00	<0.20
	Ithaca	1.0	6.1	0.18	11.0	2.10	<0.20
	Penn State	<0.2	11.0	0.19	13.0	7.00	<0.20
	Virginia	<0.2	8.5	0.16	7.0	25.00	<0.20
	# Illinois	<0.2	25.0	0.25	22.0	18.00	<0.20
	Brookhaven	<0.2	8.3	0.11	8.3	45.00	<0.20
	Lewes	<0.2	5.6	0.07	3.3	40.00	<0.20
	Oak Ridge	0.7	6.6	0.14	4.6	2.20	<0.20
23 Nov 1983	# Illinois	0.9	14.0	0.20	14.0	3.90	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

78/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
25 Nov 1983 # Penn State	2.3	16.0	0.20	33.0	10.00	<0.20
# Lewes	2.3	16.0	0.20	6.4	74.00	<0.20
# Oxford	<0.5	13.0	0.21	6.4	4.70	<0.20
26 Nov 1983 Virginia	0.0	7.9	0.10	8.6	1.40	<0.20
27 Nov 1983 # Ithaca	2.3	18.0	0.20	25.0	3.00	<0.20
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
28 Nov 1983 # Whiteface	<0.2	7.4	0.04	12.0	<1.00	<0.20
# Illinois	7.1	14.0	0.16	11.0	4.20	<0.20
Brookhaven	<0.2	6.0	0.14	4.2	10.00	<0.20
# Oxford	6.9	13.0	0.14	11.0	2.90	<0.20
Oak Ridge	<0.2	10.0	0.13	5.0	5.00	<0.20
29 Nov 1983 # Whiteface	<0.2	7.8	0.11	9.2	<1.00	<0.20
Ithaca	4.6	9.0	0.29	26.0	1.80	<0.20
Penn State	5.0	16.0	0.26	32.0	4.30	<0.20
Virginia	<0.2	43.0	0.44	46.0	29.00	<0.20
Brookhaven	<0.2	40.0	0.07	20.0	190.00	<0.20
1 Dec 1983 # Whiteface	<0.2	20.0	0.11	49.0	3.20	<0.20
2 Dec 1983 # Illinois	<0.2	20.0	NAP	39.0	0.80	<0.20
3 Dec 1983 # Penn State	<0.2	4.0	0.18	26.0	4.20	<0.20
# Oxford	5.0	21.0	0.21	19.0	9.20	<0.20
4 Dec 1983 Virginia	16.0	24.0	NAP	22.0	5.60	<0.20
# Brookhaven	4.7	11.0	0.16	30.0	7.00	<0.20
Lewes	<0.2	10.0	0.17	13.0	240.00	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

71/

		(S O 2)	(S O 4 -)	(N O 2)	(N O 3)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
4 Dec 1983	Oxford	19.0	32.0	NAP	15.0	9.90	<0.20
5 Dec 1983	# Whiteface	<0.2	2.2	0.07	6.4	1.10	<0.20
	# Ithaca	<0.2	6.3	0.12	16.0	2.00	<0.20
	# Penn State	3.7	12.0	0.29	24.0	4.50	<0.20
	# Illinois	11.0	18.0	NAP	20.0	2.10	0.25
	Brookhaven	<0.2	11.0	0.06	0.2	59.00	0.47
	Oak Ridge	5.4	19.0	0.09	10.0	7.10	<0.20
7 Dec 1983	# Penn State	0.2	19.0	0.22	20.0	3.20	<0.20
	# Illinois	1.2	47.0	NAP	47.0	4.40	<0.20
	Brookhaven	0.8	19.0	0.14	26.0	41.00	<0.20
	Lewes	<0.2	12.0	0.22	28.0	23.00	<0.20
	# Oxford	1.7	39.0	NAP	47.0	9.80	<0.20
	Oak Ridge	1.5	12.0	0.20	12.0	3.10	<0.20
8 Dec 1983	# Whiteface	0.7	11.0	0.09	20.0	2.10	<0.20
	# Ithaca	1.6	15.0	0.08	25.0	2.20	<0.20
	# Illinois	<0.2	12.0	NAP	55.0	17.00	<0.20
	# Oxford	<0.2	ISA	ISA	ISA	ISA	ISA
9 Dec 1983	Illinois	ISA	ISA	ISA	ISA	ISA	ISA
10 Dec 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
12 Dec 1983	Illinois	6.0	18.0	NAP	16.0	<3.00	<0.20
	Lewes	<0.2	22.0	<0.10	7.5	410.00	<0.20
13 Dec 1983	Virginia	<0.2	15.0	NAP	13.0	35.00	<0.20
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA

		(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
13 Dec 1983	Oak Ridge	3.1	9.1	0.15	6.2	2.40	<0.20
14 Dec 1983	Ithaca	1.1	3.6	0.13	7.9	2.10	0.29
	Penn State	<0.2	5.4	0.14	7.4	5.30	<0.20
	Brookhaven	<0.2	21.0	0.05	9.3	190.00	<0.20
	Lewes	<0.2	11.0	<0.10	2.7	240.00	<0.20
15 Dec 1983	Whiteface	<0.2	4.0	0.09	7.2	2.70	<0.20
	Lewes	<0.2	8.4	0.09	4.0	3.40	<0.20
	# Oxford	4.9	26.0	NAP	34.0	7.20	<0.20
	Oak Ridge	2.0	26.0	0.10	22.0	7.60	<0.20
16 Dec 1983	# Illinois	0.2	25.0	NAP	24.0	5.10	<0.20
	Brookhaven	<0.2	13.0	0.16	11.0	28.00	<0.20
17 Dec 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA
19 Dec 1983	# Whiteface	<0.2	12.0	0.14	74.0	3.30	<0.20
20 Dec 1983	# Ithaca	ISA	11.0	0.24	50.0	28.00	<0.20
22 Dec 1983	# Virginia	0.8	10.0	NAP	10.0	4.90	<0.20
	# Illinois	<0.2	8.4	NAP	11.0	2.80	<0.20
	# Oxford	ISA	18.0	NAP	28.0	5.20	<0.20
23 Dec 1983	# Penn State	<0.2	9.3	0.26	10.0	4.00	<0.20
	Brookhaven	<0.2	11.0	0.05	2.0	92.00	<0.20
	Lewes	<0.2	11.0	<0.10	6.0	210.00	<0.20
24 Dec 1983	# Penn State	<0.2	6.4	1.00	50.0	18.00	<0.20
25 Dec 1983	# Ithaca	0.6	5.4	<0.10	12.0	3.70	<0.20
27 Dec 1983	# Whiteface	<0.2	12.0	0.07	27.0	2.30	<0.20

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

73/

	(S O 2)	(S O 4 -)	(N O 2 -)	(N O 3 -)	(C L -)	(P O 4 -)
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L
27 Dec 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA
29 Dec 1983 # Whiteface	1.7	6.0	0.11	17.0	<2.00	<0.20
Penn State	<0.2	14.0	NAP	11.0	4.60	<0.20
# Illinois	<0.2	21.0	NAP	42.0	6.70	<0.20
Brookhaven	<0.2	12.0	0.08	5.8	82.00	<0.20
# Lewes	<0.2	9.1	0.07	6.2	20.00	<0.20
# Oxford	4.1	21.0	NAP	17.0	6.10	<0.20
# Oak Ridge	1.3	12.0	0.18	5.7	2.60	0.18

MISSING DATA CODES:

NSC MEANS NO SAMPLE COLLECTED
ISA MEANS INSUFFICIENT SAMPLE FOR ANALYSIS
NAP MEANS NO ANALYSIS PERFORMED
MOE MEANS MALFUNCTION OR OPERATOR ERROR
RPC MEANS REJECTED - PROBABLE CONTAMINATION

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

74/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A + +)	(M G + +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
1 Jan 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	104.7	14.0	28.00	2.00	2.60	2.70	143.	159.
3 Jan 1983 # Whiteface	79.4	46.0	2.20	<2.00	1.70	0.53	124.	132.
# Virginia	89.1	2.4	40.00	6.10	4.50	0.41	135.	147.
# Oak Ridge	63.1	<0.6	2.70	<0.40	6.00	0.82	91.	79.
4 Jan 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Illinois	36.3	7.8	9.70	3.40	1.70	1.00	55.	63.
6 Jan 1983 # Lewes	30.2	6.6	60.00	0.34	2.60	6.30	100.	115.
7 Jan 1983 # Brookhaven	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC
8 Jan 1983 # Whiteface	100.0	34.0	1.00	<1.00	2.00	0.45	131.	141.
10 Jan 1983 # Illinois	147.9	72.0	5.80	<1.00	6.90	3.00	253.	246.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	58.9	<0.6	2.00	<0.40	3.60	0.45	77.	69.
11 Jan 1983 # Ithaca	38.9	10.0	4.40	<1.00	2.60	1.10	68.	61.
# Virginia	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	14.0	4.0	110.00	0.84	2.70	8.00	132.	153.
# Lewes	5.1	2.9	82.00	0.87	11.00	0.10	117.	129.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	85.1	23.0	11.00	<1.00	2.00	0.41	122.	124.
12 Jan 1983 # Whiteface	20.9	1.1	0.94	<0.40	0.87	<0.40	25.	25.
# Penn State	53.7	9.0	7.60	2.30	1.80	0.50	80.	77.
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

75/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
12 Jan 1983 # Lewes	134.9	70.0	66.00	<1.00	4.40	7.20	295.	294.
13 Jan 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Ithaca	29.5	8.7	10.00	<1.00	5.50	2.10	66.	63.
14 Jan 1983 # Oak Ridge	21.9	22.0	9.10	<1.00	8.20	0.70	74.	71.
15 Jan 1983 # Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
16 Jan 1983 # Penn State	107.2	22.0	3.20	<1.00	2.50	<0.40	135.	137.
# Brookhaven	21.9	2.2	49.00	0.50	1.60	4.20	83.	85.
# Lewes	61.7	8.5	7.20	<1.00	0.97	0.70	86.	81.
17 Jan 1983 # Whiteface	14.8	1.1	4.10	<0.40	1.70	<0.40	23.	23.
# Ithaca	49.0	3.6	1.30	<1.00	1.30	<0.40	59.	56.
20 Jan 1983 # Ithaca	23.4	3.5	22.00	<1.00	12.00	2.10	82.	77.
22 Jan 1983 # Oxford	46.0	1.8	5.20	<1.00	1.00	<0.40	46.	56.
24 Jan 1983 # Ithaca	55.0	4.4	1.80	<1.00	1.00	<0.40	59.	63.
# Penn State	61.7	8.0	8.90	<1.00	4.20	<0.40	84.	87.
# Virginia	61.7	6.7	4.70	1.10	0.92	<0.40	61.	76.
# Illinois	81.3	7.9	1.60	<1.00	2.00	0.62	96.	96.
# Brookhaven	6.8	1.3	42.00	0.46	1.70	3.30	56.	61.
# Lewes	8.7	1.7	36.00	<0.50	1.20	3.50	64.	56.
# Oxford	70.8	11.0	34.00	<1.00	3.40	<0.40	120.	123.
# Oak Ridge	11.2	<0.6	2.80	<0.40	23.00	6.00	83.	72.
25 Jan 1983 # Whiteface	8.1	1.1	3.40	<0.40	0.87	<0.40	15.	14.
26 Jan 1983 # Whiteface	66.1	31.0	4.70	<1.00	1.50	<0.40	93.	105.
27 Jan 1983 # Ithaca	67.6	27.0	16.00	<1.00	22.00	7.40	171.	169.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

76/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
27 Jan 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
30 Jan 1983 # Oxford	70.8	24.0	14.00	<1.00	6.40	0.49	113.	123.
31 Jan 1983 # Penn State	89.1	37.0	6.50	<1.00	4.50	<0.40	137.	142.
# Virginia	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Illinois	50.1	19.0	1.60	<1.00	16.00	4.00	122.	111.
# Brookhaven	30.0	1.0	23.00	<1.00	1.20	2.10	70.	69.
# Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	72.4	16.0	8.00	<0.40	3.60	0.70	100.	105.
1 Feb 1983 # Whiteface	85.1	11.0	5.30	<0.40	1.30	<0.40	91.	104.
# Ithaca	162.2	32.0	7.90	<1.00	4.90	1.10	208.	214.
2 Feb 1983 # Illinois	47.9	5.5	0.70	<0.40	<0.50	<0.40	63.	54.
# Oxford	66.1	10.0	6.30	<1.00	2.30	0.53	89.	96.
# Oak Ridge	38.9	<0.6	0.96	<0.40	1.40	<0.40	49.	43.
3 Feb 1983 # Whiteface	17.0	0.6	2.80	<0.40	0.75	<0.40	21.	22.
# Penn State	57.5	0.7	2.80	<1.00	1.10	<0.40	67.	71.
# Virginia	75.9	15.0	16.00	<1.00	1.00	1.50	115.	112.
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	10.2	1.0	33.00	<1.00	1.10	3.20	58.	54.
# Lewes	5.9	3.6	35.00	<0.40	1.90	3.10	60.	54.
4 Feb 1983 # Whiteface	30.2	1.2	18.00	<0.40	3.00	<0.40	52.	55.
# Ithaca	42.7	3.8	1.40	<0.40	1.00	<0.40	65.	50.
# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

77/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A + +)	(M G + +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
5 Feb 1983 # Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
7 Feb 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	26.3	2.8	2.50	<1.00	0.65	<0.40	34.	33.
# Illinois	50.1	0.7	1.30	<0.40	2.50	0.66	71.	58.
# Brookhaven	8.7	<0.6	14.00	<0.40	0.75	1.20	32.	27.
# Lewes	12.6	1.0	100.00	<0.50	2.50	10.00	150.	139.
# Oxford	36.3	7.5	17.00	<0.50	2.00	<0.40	71.	65.
8 Feb 1983 # Ithaca	30.2	2.4	2.60	<0.40	3.60	0.66	55.	44.
# Penn State	74.1	5.0	10.00	<1.00	2.50	0.41	109.	95.
# Oak Ridge	22.9	1.9	1.30	<0.40	5.10	0.86	52.	38.
9 Feb 1983 # Whiteface	6.6	<0.6	2.70	<0.40	<0.50	<0.40	9.	9.
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
11 Feb 1983 # Oak Ridge	55.0	1.8	0.93	<0.40	3.20	0.41	78.	65.
12 Feb 1983 # Penn State	10.7	<0.6	0.87	<0.40	2.40	<0.40	17.	16.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
13 Feb 1983 # Virginia	26.9	1.3	1.50	<0.50	0.87	<0.40	35.	31.
# Brookhaven	7.6	0.7	33.00	<1.00	3.30	3.60	61.	55.
# Lewes	7.2	<1.0	890.00	15.00	20.00	71.00	1314.	1094.
15 Feb 1983 # Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
16 Feb 1983 # Ithaca	30.0	2.0	20.00	<0.40	9.30	1.90	117.	90.
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
18 Feb 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	44.7	4.5	11.00	<0.40	0.92	0.95	74.	64.

MAP38 PRECIPITATION CHEMISTRY DATA (CONT.)

78/

		(H +)	(H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
18 Feb 1983	# Lewes	138.8	7.3	37.00	0.69	3.20	3.80	232.	197.
23 Feb 1983	# Whiteface	295.1	110.0	15.00	<0.40	9.40	1.40	502.	442.
	# Virginia	31.6	7.9	15.00	<0.50	1.80	0.99	63.	60.
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	42.7	<0.6	4.40	<0.40	3.70	0.86	60.	56.
24 Feb 1983	# Brookhaven	28.2	3.4	27.00	<0.50	2.50	2.80	93.	69.
	# Lewes	9.8	1.0	7.80	<0.50	<0.50	0.74	23.	20.
25 Feb 1983	# Ithaca	63.1	25.0	1.90	<1.00	3.20	<0.40	107.	96.
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	120.2	32.0	4.50	<1.00	2.90	<0.40	176.	163.
26 Feb 1983	# Whiteface	32.4	5.2	51.00	<0.50	17.00	1.80	136.	126.
	# Penn State	97.7	20.0	3.70	<1.00	11.00	1.80	162.	147.
	# Virginia	114.0	22.0	3.10	<1.00	2.00	<0.40	145.	144.
2 Mar 1983	# Virginia	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Brookhaven	39.8	7.1	17.00	<0.40	1.40	1.60	70.	70.
	# Lewes	33.9	3.9	86.00	<1.00	2.00	8.60	149.	145.
4 Mar 1983	# Ithaca	218.8	120.0	9.50	<1.00	58.00	10.00	523.	484.
	# Brookhaven	239.9	130.0	19.00	<2.00	23.00	5.00	ISA	445.
6 Mar 1983	# Brookhaven	295.1	150.0	61.00	<2.00	26.00	9.60	625.	577.
	# Oxford	20.9	17.0	5.20	<1.00	5.60	1.20	56.	57.
7 Mar 1983	# Oxford	28.2	37.0	6.30	<1.00	12.00	2.80	113.	101.
8 Mar 1983	# Whiteface	39.8	4.9	3.70	1.60	2.90	0.62	67.	57.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

79/

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
8 Mar 1983	# Illinois	36.3	25.0	1.50	<0.40	4.50	0.62	70.	73.
	# Brookhaven	10.2	2.9	0.30	<0.40	0.75	0.99	41.	33.
	# Oxford	69.2	10.0	0.96	<0.50	4.70	0.45	112.	98.
9 Mar 1983	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Brookhaven	15.5	<0.6	12.00	<0.40	1.10	1.30	36.	32.
	# Oak Ridge	1.6	0.9	12.00	<0.40	13.00	2.60	40.	46.
10 Mar 1983	# Whiteface	10.2	1.1	12.00	<0.40	0.52	<0.40	19.	24.
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
11 Mar 1983	# Ithaca	100.0	56.0	2.20	<1.00	0.10	1.40	195.	177.
	# Penn State	66.1	13.0	3.00	<1.00	2.70	0.82	115.	89.
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Brookhaven	27.5	12.0	2.60	<0.50	1.20	<0.40	52.	45.
	# Lewes	37.2	4.4	110.00	<0.40	4.50	12.00	194.	185.
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
12 Mar 1983	# Virginia	50.1	15.0	6.40	<0.50	0.75	0.53	82.	74.
	# Brookhaven	25.1	1.7	39.00	<0.50	1.00	4.00	83.	76.
13 Mar 1983	# Whiteface	9.5	2.2	3.10	<0.50	<0.50	<0.40	20.	15.
	# Lewes	38.0	0.3	130.00	0.66	7.00	15.00	223.	221.
15 Mar 1983	# Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	120.0	30.0	42.00	<0.40	15.00	1.80	240.	242.
16 Mar 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Ithaca	91.2	72.0	0.50	<2.00	15.00	2.40	212.	207.
18 Mar 1983	# Illinois	34.7	15.0	2.00	<0.40	4.50	1.80	71.	64.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

80/

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
18 Mar 1983	# Oxford	61.7	2.6	1.60	<0.50	2.70	0.66	82.	73.
19 Mar 1983	# Brookhaven	16.2	2.6	110.00	0.51	3.20	12.00	177.	160.
	# Lewes	12.6	2.1	170.00	0.66	4.20	18.00	250.	230.
20 Mar 1983	# Whiteface	11.0	1.4	10.00	<0.40	0.75	1.50	35.	35.
	# Penn State	37.2	1.1	4.00	<0.40	1.60	<0.40	40.	45.
	# Virginia	30.9	4.1	13.00	<0.40	<0.50	1.20	52.	50.
21 Mar 1983	# Ithaca	44.7	7.2	4.50	<0.50	0.67	0.45	63.	59.
	# Virginia	25.7	23.0	5.40	<1.00	4.00	<0.40	63.	62.
	# Oxford	79.4	35.0	1.60	<1.00	1.70	<0.40	127.	119.
	# Oak Ridge	31.6	6.7	2.60	<0.40	4.70	0.45	57.	51.
22 Mar 1983	# Whiteface	26.9	7.7	4.30	<0.50	2.50	<0.40	44.	44.
	# Ithaca	57.5	20.0	0.89	<0.40	<0.50	<0.40	76.	70.
	# Penn State	50.1	9.3	2.50	<0.40	1.00	<0.40	59.	64.
	# Illinois	44.7	8.2	<0.50	<0.40	1.30	<0.40	50.	55.
	# Brookhaven	72.4	19.0	39.00	<0.50	2.70	4.80	160.	145.
	# Lewes	35.5	15.0	140.00	<0.40	3.40	8.30	164.	214.
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
27 Mar 1983	# Oxford	61.7	9.7	8.60	<1.00	11.00	1.60	115.	105.
28 Mar 1983	# Whiteface	15.1	2.0	3.40	<0.40	<0.50	<0.40	25.	21.
	# Penn State	25.7	3.3	1.60	<0.40	0.07	<0.40	34.	32.
	# Virginia	27.5	5.4	6.70	<0.40	2.00	0.66	47.	45.
	# Illinois	56.2	20.0	2.00	<0.40	12.00	1.80	105.	106.
	# Brookhaven	17.8	4.0	47.00	<0.50	1.80	5.40	91.	84.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

81/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
28 Mar 1983 # Lewes	20.9	2.9	99.00	<0.50	3.50	11.00	169.	152.
# Oxford	11.2	19.0	2.60	<1.00	18.00	1.90	81.	73.
29 Mar 1983 # Ithaca	45.7	5.4	1.00	<0.40	1.70	<0.40	50.	56.
# Penn State	131.8	27.0	5.30	<0.40	4.00	0.50	171.	173.
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	21.9	3.7	3.10	<0.40	3.40	0.41	39.	36.
30 Mar 1983 # Whiteface	37.2	4.1	0.90	<0.40	1.50	<0.40	58.	53.
31 Mar 1983 # Illinois	195.0	12.0	11.00	<0.40	12.00	5.10	271.	252.
# Oak Ridge	100.0	5.4	14.00	<0.40	6.50	0.41	141.	133.
1 Apr 1983 # Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Lewes	70.8	3.2	10.00	<1.00	1.70	1.90	84.	99.
2 Apr 1983 # Oxford	61.7	10.0	2.40	<0.50	6.00	0.86	96.	80.
3 Apr 1983 # Virginia	40.7	13.0	12.00	<0.40	2.50	1.20	79.	73.
# Lewes	10.2	5.0	150.00	<1.00	7.00	12.00	178.	211.
4 Apr 1983 # Whiteface	38.0	5.1	4.20	<0.40	2.00	<0.40	53.	51.
# Ithaca	45.7	3.0	0.71	<0.40	2.40	0.41	56.	55.
# Penn State	41.7	7.5	1.70	<0.40	1.70	<0.40	56.	54.
# Illinois	60.3	17.0	4.10	<1.00	10.00	1.70	97.	105.
# Brookhaven	36.3	6.2	65.00	<0.40	4.10	7.80	146.	131.
# Oxford	56.2	12.0	3.50	<0.40	1.50	<0.40	70.	75.
# Oak Ridge	28.2	9.1	3.10	<0.40	5.40	0.66	56.	53.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

82/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
5 Apr 1983 # Whiteface	112.2	13.0	18.00	<0.40	2.20	<0.40	154.	148.
# Illinois	0.3	20.0	31.00	2.40	130.00	11.00	218.	336.
6 Apr 1983 # Illinois	93.3	22.0	4.00	NAP	8.20	1.80	138.	NAP
# Oxford	120.2	20.0	11.00	<0.40	23.00	2.20	195.	202.
7 Apr 1983 # Illinois	131.8	18.0	3.20	NAP	13.00	1.60	157.	NAP
# Oxford	0.1	RPC	RPC	RPC	RPC	RPC	RPC	RPC
# Oak Ridge	15.5	3.9	0.93	<0.50	1.00	<0.40	23.	22.
8 Apr 1983 # Whiteface	74.1	6.7	4.60	<0.40	1.90	<0.40	94.	89.
# Ithaca	79.4	6.8	0.74	<0.40	2.20	<0.40	93.	91.
# Brookhaven	55.0	8.2	23.00	<0.40	2.60	2.10	102.	96.
# Oxford	34.7	2.6	1.50	<0.40	0.87	<0.40	40.	41.
9 Apr 1983 # Brookhaven	83.2	10.0	3.00	<0.40	1.50	0.50	108.	100.
# Lewis	70.8	31.0	20.00	<1.00	5.00	1.90	121.	136.
10 Apr 1983 # Penn State	91.2	10.0	1.50	NAP	2.50	<0.40	111.	NAP
# Brookhaven	11.5	1.8	20.00	<0.40	0.90	2.00	37.	39.
# Oxford	6.9	56.0	2.90	16.00	17.00	2.00	126.	120.
11 Apr 1983 # Ithaca	22.9	1.2	0.45	<0.40	0.92	<0.40	26.	26.
# Virginia	46.8	6.7	1.40	NAP	1.00	<0.40	57.	NAP
# Brookhaven	3.1	7.0	7.60	<0.40	7.20	1.00	32.	34.
# Oxford	51.3	16.0	2.70	<0.40	1.50	<0.40	79.	73.
# Oak Ridge	24.5	8.8	1.80	<0.50	5.90	<0.40	49.	47.
12 Apr 1983 # Whiteface	16.6	3.4	2.20	<0.40	1.40	<0.40	27.	25.
# Ithaca	125.9	56.0	<0.50	<2.00	2.10	0.45	177.	187.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

83/

		(H ⁺)		(NH ₄ ⁺)		(NO ₃ ⁻)		(K ⁺)		(Ca ²⁺)		(Mg ²⁺)		ANION SUM		CATION SUM	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
12 Apr 1983	# Penn State	141.3	12.0	1.30	NAP	1.00	<0.40	150.	NAP								
	# Illinois	63.1	27.0	3.40	NAP	22.00	2.30	120.	NAP								
	# Lewes	30.2	8.8	30.00	<1.00	2.20	3.80	89.	89.								
13 Apr 1983	# Whiteface	21.9	4.7	0.82	<0.40	0.62	<0.40	25.	29.								
	# Illinois	38.9	30.0	12.00	NAP	26.00	4.60	132.	NAP								
	# Oxford	64.6	10.0	3.20	<0.40	8.40	1.50	102.	98.								
14 Apr 1983	# Illinois	50.1	12.0	3.10	NAP	2.10	0.50	64.	NAP								
	# Oxford	63.1	15.0	2.70	<0.40	5.50	1.20	100.	94.								
15 Apr 1983	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	# Oak Ridge	6.8	30.0	49.00	1.40	46.00	4.60	194.	188.								
16 Apr 1983	# Whiteface	74.1	9.6	35.00	<0.40	3.20	3.90	131.	133.								
	# Penn State	51.3	10.0	10.00	NAP	5.00	1.20	93.	NAP								
	# Virginia	30.2	0.4	11.00	<1.00	1.40	1.10	55.	55.								
17 Apr 1983	# Ithaca	39.0	4.0	0.64	<0.40	1.00	<0.40	41.	47.								
	# Brookhaven	12.6	0.8	14.00	<0.40	0.85	1.50	30.	32.								
	# Lewes	14.8	1.9	40.00	<1.00	1.00	4.00	66.	67.								
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
18 Apr 1983	# Whiteface	15.1	0.6	<0.50	<0.40	<0.50	<0.40	43.	16.								
	# Illinois	34.7	9.2	2.60	<2.00	70.00	11.00	ISA	200.								
	# Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
19 Apr 1983	# Whiteface	28.2	4.2	6.70	<0.40	0.50	0.74	42.	42.								
	# Oak Ridge	46.8	18.0	3.10	<1.00	5.50	0.82	89.	81.								
20 Apr 1983	# Ithaca	55.0	17.0	6.50	<0.40	9.20	1.90	100.	101.								

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

84/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
20 Apr 1983 # Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Brookhaven	55.0	5.4	53.00	<1.00	2.00	5.60	123.	129.
# Lewes	95.5	22.0	56.00	<1.00	3.20	5.80	183.	191.
21 Apr 1983 # Whiteface	52.5	16.0	18.00	<1.00	1.70	2.10	89.	94.
# Ithaca	44.7	21.0	1.10	<0.40	2.40	0.50	69.	73.
22 Apr 1983 # Whiteface	50.1	15.0	17.00	<1.00	1.50	2.00	90.	89.
24 Apr 1983 # Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
25 Apr 1983 # Whiteface	49.0	14.0	0.62	<0.40	1.30	<0.40	65.	66.
# Penn State	28.2	5.3	0.42	<0.40	0.75	<0.40	44.	35.
# Virginia	33.1	11.0	1.20	<1.00	0.62	<0.40	41.	47.
# Brookhaven	28.8	9.1	28.00	<1.00	4.10	3.40	82.	81.
# Oak Ridge	64.6	5.7	1.70	<1.00	4.70	0.74	88.	83.
26 Apr 1983 # Whiteface	19.1	<0.6	<0.50	<0.40	<0.50	<0.40	18.	19.
# Ithaca	40.7	19.0	0.56	<0.40	1.10	<0.40	60.	62.
# Penn State	100.0	26.0	2.50	NAP	11.00	3.50	151.	NAP
# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Lewes	25.7	9.0	110.00	<1.00	3.40	11.00	166.	174.
27 Apr 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
28 Apr 1983 # Whiteface	0.5	160.0	4.50	<2.00	59.00	13.00	282.	309.
# Illinois	40.7	30.0	4.70	NAP	12.00	3.90	105.	NAP
# Oxford	66.1	22.0	8.40	<1.00	11.00	3.00	133.	124.
29 Apr 1983 # Whiteface	91.2	73.0	1.70	<1.00	20.00	4.50	205.	215.
1 May 1983 # Whiteface	66.1	24.0	0.88	<0.40	1.40	<0.40	94.	94.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

85/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
1 May 1983 # Oxford	47.9	12.0	1.90	<0.40	1.80	<0.40	72.	65.
2 May 1983 # Whiteface	57.5	26.0	4.90	<0.40	4.50	0.99	98.	99.
# Ithaca	75.9	19.0	1.50	<0.40	3.60	0.91	102.	105.
# Illinois	33.9	12.0	2.60	NAP	3.60	0.99	56.	NAP
# Oxford	42.7	45.0	13.00	<1.00	8.50	2.30	103.	122.
# Oak Ridge	38.9	16.0	34.00	1.80	14.00	3.80	139.	126.
3 May 1983 # Whiteface	24.0	10.0	1.20	<0.40	1.00	<0.40	41.	37.
# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	28.8	4.2	0.80	<0.40	1.30	<0.40	38.	37.
4 May 1983 # Whiteface	70.8	15.0	3.30	<1.00	2.80	0.74	97.	96.
# Ithaca	56.2	6.5	1.30	<1.00	2.00	<0.40	74.	68.
# Penn State	56.2	31.0	3.80	NAP	3.80	0.78	95.	NAP
# Virginia	6.8	5.5	15.00	<1.00	7.10	1.30	44.	44.
# Brookhaven	30.2	6.3	23.00	<1.00	3.10	2.20	70.	70.
# Lewes	6.5	5.4	12.00	<0.50	1.50	0.62	31.	28.
# Oxford	154.9	67.0	5.60	<2.00	11.00	3.70	264.	257.
# Oak Ridge	18.6	42.0	21.00	<1.00	10.00	3.30	100.	100.
5 May 1983 # Whiteface	60.3	5.9	0.82	<0.50	1.70	0.41	72.	71.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
6 May 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
8 May 1983 # Oxford	6.9	18.0	3.80	<1.00	24.00	4.60	92.	86.
9 May 1983 # Ithaca	64.6	9.8	<0.50	<0.40	1.20	<0.40	74.	77.
# Penn State	89.1	53.0	1.90	<1.00	6.50	1.60	164.	160.

MAP38 PRECIPITATION CHEMISTRY DATA (CONT.)

86/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
9 May 1983 # Virginia	14.5	15.0	11.00	<1.00	3.40	0.62	51.	48.
# Illinois	30.9	19.0	7.50	<1.00	14.00	5.00	100.	95.
# Brookhaven	120.2	72.0	55.00	<1.00	15.00	7.60	270.	292.
# Oak Ridge	50.1	18.0	6.00	<1.00	7.10	2.00	89.	92.
10 May 1983 # Whiteface	21.4	2.3	0.33	<0.50	0.62	<0.40	25.	25.
11 May 1983 # Whiteface	17.8	1.6	<0.50	<0.50	<0.50	<0.40	25.	19.
15 May 1983 # Penn State	72.4	16.0	1.00	<1.00	2.20	0.53	101.	96.
# Brookhaven	36.3	7.7	20.00	<1.00	1.50	1.60	67.	70.
# Oxford	35.5	42.0	2.50	<1.00	2.50	0.53	89.	86.
16 May 1983 # Whiteface	46.8	12.0	0.56	<0.50	<0.50	<0.40	67.	59.
# Ithaca	56.2	13.0	0.51	<0.40	1.20	<0.40	68.	72.
# Oak Ridge	30.9	30.0	5.30	<1.00	4.60	1.20	78.	78.
17 May 1983 # Penn State	107.2	7.9	3.70	<0.40	2.90	0.49	138.	126.
# Virginia	31.6	20.0	2.00	<1.00	2.50	0.53	61.	60.
# Brookhaven	29.5	3.0	13.00	<1.00	0.87	1.30	40.	50.
# Lewes	50.1	26.0	92.00	<1.00	5.00	9.30	171.	197.
19 May 1983 # Illinois	60.3	9.0	1.70	<0.40	7.10	1.30	87.	88.
# Oxford	19.5	24.0	4.20	2.40	6.60	1.60	70.	66.
# Oak Ridge	10.5	6.5	3.40	<0.40	1.10	0.41	25.	23.
20 May 1983 # Whiteface	74.1	12.0	2.10	NAP	1.70	0.62	80.	NAP
# Ithaca	56.2	14.0	12.00	<1.00	3.40	2.10	96.	93.
# Penn State	45.7	12.0	12.00	<1.00	3.10	1.70	90.	79.
# Lewes	13.2	11.0	22.00	<1.00	1.90	2.60	58.	55.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

87/

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
21 May 1983	# Brookhaven	20.9	22.0	140.00	<1.00	5.50	14.00	187.	222.
22 May 1983	# Oxford	38.0	6.0	0.66	<0.40	0.50	<0.40	51.	46.
23 May 1983	# Whiteface	55.0	1.0	1.30	NAP	3.70	1.10	67.	NAP
	# Ithaca	45.7	8.0	1.30	<0.40	1.00	<0.40	60.	57.
	# Penn State	60.3	12.0	2.70	<1.00	1.00	<0.40	86.	77.
	# Virginia	28.8	16.0	12.00	<1.00	2.10	1.30	64.	64.
	# Illinois	56.2	30.0	1.20	<1.00	3.70	1.20	97.	97.
	# Brookhaven	61.7	9.3	6.90	<0.40	1.40	0.50	69.	82.
	# Lewes	39.8	19.0	5.10	<1.00	1.50	0.74	67.	68.
	# Oak Ridge	60.3	12.0	8.80	<0.40	3.00	1.30	94.	90.
24 May 1983	# Whiteface	53.7	15.0	2.60	NAP	2.10	<0.40	72.	NAP
	# Penn State	MOE	MOE	MOE	MOE	MOE	MOE	MOE	MOE
	# Oak Ridge	67.6	26.0	0.59	<1.00	7.20	1.10	115.	111.
25 May 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Illinois	55.0	74.0	4.20	<2.00	35.00	9.10	233.	221.
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
26 May 1983	# Whiteface	134.9	33.0	5.70	<1.00	3.30	0.50	181.	181.
	# Ithaca	79.4	31.0	1.00	<1.00	3.00	0.82	125.	119.
	# Oxford	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC
27 May 1983	# Whiteface	63.1	7.5	1.30	<1.00	0.87	<0.40	73.	74.
	# Virginia	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Brookhaven	77.6	11.0	20.00	<1.00	1.30	2.20	113.	116.
	# Lewes	95.5	26.0	14.00	<1.00	3.10	1.50	139.	145.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

88/

		ANION						CATION	
		(H ⁺)	(NH ₄ ⁺)	(NA ⁺)	(K ⁺)	(CA ²⁺)	(MG ²⁺)	SUM	SUM
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
28 May 1983	# Whiteface	51.3	15.0	0.00	<1.00	3.90	0.66	84.	83.
	# Oxfo:	13.5	76.0	5.00	<1.00	8.00	2.30	122.	115.
30 May 1983	# Whiteface	51.3	13.0	2.30	<1.00	1.20	<0.40	70.	69.
	# Penn State	104.7	41.0	4.60	<1.00	7.00	1.30	171.	167.
	# Virginia	177.8	57.0	4.20	<2.00	5.60	1.50	250.	253.
	# Brookhaven	31.6	10.0	45.00	<2.00	4.00	3.80	100.	102.
	# Oxford	29.5	49.0	4.50	<1.00	7.60	2.10	112.	102.
31 May 1983	# Whiteface	42.7	8.4	2.00	<0.50	1.50	<0.40	56.	57.
	# Ithaca	102.3	37.0	0.77	<1.00	6.50	1.60	163.	156.
	# Illinois	60.3	20.0	0.51	<1.00	5.20	1.00	88.	93.
	# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Lewes	57.5	11.0	18.00	<1.00	2.10	1.90	97.	95.
	# Oak Ridge	30.9	16.0	0.59	<1.00	2.70	0.62	55.	54.
1 Jun 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Ithaca	66.1	19.0	<0.50	<0.40	2.50	0.45	91.	91.
	# Penn State	91.2	11.0	0.46	<1.00	8.20	2.00	131.	123.
	# Brookhaven	104.7	50.0	17.00	<2.00	5.90	1.50	157.	107.
2 Jun 1983	# Penn State	MOE	MOE	MOE	MOE	MOE	MOE	MOE	MOE
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Lewes	147.9	31.0	17.00	<1.00	5.20	2.30	208.	211.
3 Jun 1983	# Oxford	89.1	14.0	1.60	<0.40	2.90	0.53	106.	112.
4 Jun 1983	# Penn State	100.0	30.0	1.90	<1.00	1.70	<0.40	134.	135.
	# Virginia	91.2	21.0	2.90	<1.00	5.80	0.99	131.	129.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

89/

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
4 Jun 1983	# Brookhaven	93.3	35.0	20.00	<1.00	2.10	3.30	162.	167.
5 Jun 1983	# Whiteface	70.0	17.0	4.40	<1.00	1.40	<0.40	92.	95.
6 Jun 1983	# Ithaca	144.5	11.0	0.56	<1.00	2.50	0.53	164.	162.
	# Illinois	70.8	27.0	1.40	<1.00	6.40	1.30	114.	115.
	# Lewes	125.9	34.0	15.00	<1.00	6.00	1.60	193.	190.
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	41.7	18.0	1.90	<1.00	3.70	0.70	72.	71.
7 Jun 1983	# Whiteface	55.0	22.0	1.60	<1.00	1.20	<0.40	77.	81.
	# Ithaca	117.5	52.0	0.60	<1.00	9.20	2.20	196.	193.
	# Penn State	195.0	55.0	5.60	<1.00	13.00	3.00	294.	280.
	# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	63.1	5.2	0.92	<1.00	5.20	0.99	74.	82.
8 Jun 1983	# Lewes	50.1	2.7	10.00	<0.50	4.00	1.40	84.	82.
11 Jun 1983	# Whiteface	239.9	62.0	2.60	<1.00	25.00	8.30	371.	371.
14 Jun 1983	# Penn State	MOE	MOE	MOE	MOE	MOE	MOE	MOE	MOE
15 Jun 1983	# Illinois	26.9	6.0	1.70	<1.00	3.30	0.70	40.	43.
16 Jun 1983	# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	107.2	37.0	1.70	<1.00	12.00	3.30	171.	176.
17 Jun 1983	# Whiteface	104.7	30.0	<0.50	<1.00	2.70	0.50	134.	149.
	# Ithaca	195.0	60.0	0.96	<1.00	3.60	0.74	255.	265.
	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
18 Jun 1983	# Ithaca	138.0	30.0	<0.50	<1.00	1.90	<0.40	159.	172.
19 Jun 1983	# Whiteface	109.6	29.0	<0.50	<1.00	2.00	0.41	132.	143.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

90/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
19 Jun 1983 # Penn State	MOE	MOE	MOE	MOE	MOE	MOE	MOE	MOE
# Lewes	66.1	29.0	31.00	<1.00	5.50	3.40	142.	144.
# Oxford	60.3	19.0	0.63	<1.00	1.20	<0.40	80.	82.
20 Jun 1983 # Illinois	151.4	34.0	0.97	<1.00	10.00	1.90	210.	210.
# Oxford	190.5	63.0	1.50	1.40	14.00	3.60	293.	292.
21 Jun 1983 # Penn State	100.0	12.0	<0.50	<0.40	<0.50	<0.40	110.	112.
# Brookhaven	177.8	110.0	20.00	<1.00	10.00	2.40	345.	341.
# Oak Ridge	166.0	14.0	1.90	<1.00	4.10	0.95	191.	192.
22 Jun 1983 # Virginia	53.7	16.0	0.59	<1.00	0.65	<0.40	73.	72.
# Lewes	51.3	10.0	14.00	<1.00	0.57	1.40	76.	79.
23 Jun 1983 # Oak Ridge	173.8	37.0	4.60	<1.00	15.00	4.30	251.	254.
25 Jun 1983 # Whiteface	1.3	16.0	3.90	1.90	16.00	5.30	50.	66.
26 Jun 1983 # Whiteface	30.0	17.0	<0.50	09.00	3.40	0.70	56.	152.
27 Jun 1983 # Whiteface	79.4	31.0	<0.50	<2.00	4.10	1.00	114.	121.
28 Jun 1983 # Whiteface	51.3	20.0	0.56	<2.00	0.70	<0.40	65.	73.
# Illinois	36.3	17.0	1.40	<1.00	7.90	1.70	76.	74.
# Oxford	100.0	21.0	1.00	<1.00	2.40	0.49	125.	129.
# Oak Ridge	01.3	2.7	0.30	<1.00	3.10	0.58	90.	100.
29 Jun 1983 # Ithaca	01.3	16.0	<0.50	<0.50	3.20	0.78	99.	105.
# Penn State	130.0	10.0	<0.50	<0.40	1.00	<0.40	150.	152.
# Illinois	100.0	22.0	3.70	<1.00	7.30	2.10	147.	145.
# Brookhaven	74.1	9.9	3.90	<1.00	1.00	0.66	84.	91.
# Lewes	109.6	16.0	41.00	<1.00	4.90	4.60	169.	186.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

91/

		(H ⁺)		(NH ₄ ⁺)		(NO ₃ ⁻)		(K ⁺)		(Ca ²⁺)		(Mg ²⁺)		ANION SUM		CATION SUM	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
30 Jun 1983	# Illinois	81.3	15.0	1.30	<1.00	2.20	0.74	108.	103.								
	# Oxford	28.2	24.0	<0.50	<1.00	1.90	<0.40	62.	56.								
1 Jul 1983	# Virginia	204.2	44.0	20.00	<2.00	5.50	1.40	268.	282.								
	# Oxford	114.0	34.0	3.40	<1.00	6.00	2.30	167.	169.								
2 Jul 1983	# Virginia	27.5	3.3	1.20	<1.00	<0.50	<0.40	27.	32.								
3 Jul 1983	# Whiteface	109.6	53.0	0.81	<2.00	4.50	0.78	185.	174.								
5 Jul 1983	# Virginia	57.5	6.3	6.00	<1.00	4.00	0.86	73.	80.								
	# Illinois	60.3	13.0	4.30	<1.00	6.70	1.50	99.	94.								
	# Oxford	30.9	8.3	3.20	<2.00	3.30	0.78	49.	51.								
	# Oak Ridge	64.6	12.0	4.00	<1.00	5.10	1.10	91.	93.								
6 Jul 1983	# Ithaca	182.0	14.0	0.90	<0.50	2.70	0.82	196.	204.								
	# Virginia	32.4	3.4	0.62	<1.00	<0.50	<0.40	33.	36.								
	# Brookhaven	87.1	8.9	5.20	<1.00	0.80	0.50	92.	104.								
	# Lewes	79.4	28.0	3.70	<1.00	1.70	0.82	111.	116.								
7 Jul 1983	# Whiteface	31.6	9.7	0.89	<2.00	1.50	<0.40	102.	45.								
	# Lewes	123.0	54.0	15.00	<2.00	10.00	4.60	237.	221.								
9 Jul 1983	# Whiteface	38.9	24.0	<0.40	<2.00	6.50	1.50	99.	79.								
11 Jul 1983	# Ithaca	117.5	81.0	1.60	<2.00	36.00	10.00	304.	292.								
12 Jul 1983	# Whiteface	ISA	78.0	2.40	<2.00	11.00	2.40	165.	ISA								
13 Jul 1983	# Oxford	0.4	120.0	5.90	<2.00	100.00	32.00	352.	390.								
15 Jul 1983	# Whiteface	13.8	11.0	0.56	<2.00	8.60	1.70	72.	46.								
18 Jul 1983	# Penn State	199.5	56.0	1.80	<2.00	13.00	2.60	262.	289.								
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								

		H ⁺		NH ₄ ⁺		NO ₃ ⁻		K ⁺		Ca ²⁺		Mg ²⁺		ANION SUM		CATION SUM	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
19 Jul 1983	# Ithaca	67.6	100.0	4.30	<2.00	29.00	8.00	238.	246.								
	# Lewes	131.8	16.0	13.00	<2.00	4.70	1.90	188.	174.								
	# Oxford	60.3	34.0	2.20	<2.00	15.00	4.20	135.	135.								
	# Oak Ridge	151.4	37.0	4.00	<2.00	18.00	3.10	271.	235.								
20 Jul 1983	# Penn State	61.7	11.0	8.90	<2.00	10.00	1.30	95.	104.								
	# Virginia	141.3	20.0	1.90	<2.00	8.50	1.80	159.	184.								
	# Brookhaven	138.0	26.0	2.20	<2.00	5.10	1.30	166.	179.								
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	# Oak Ridge	398.1	85.0	5.90	<2.00	30.00	5.40	652.	560.								
21 Jul 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	# Virginia	104.7	35.0	2.30	<2.00	9.90	2.00	144.	166.								
	# Oak Ridge	229.1	52.0	9.00	<2.00	24.00	4.90	398.	348.								
22 Jul 1983	# Whiteface	10.7	3.6	0.42	<2.00	2.30	0.29	40.	20.								
	# Ithaca	40.7	33.0	1.40	<2.00	11.00	3.10	95.	103.								
	# Penn State	13.5	4.2	<0.40	<2.00	0.57	<0.40	18.	19.								
	# Virginia	120.2	21.0	2.70	<2.00	5.30	1.10	145.	157.								
	# Brookhaven	81.3	8.5	3.40	<1.00	4.30	1.60	98.	105.								
	# Lewes	199.5	57.0	130.00	<2.00	20.00	16.00	491.	459.								
24 Jul 1983	# Whiteface	81.3	12.0	0.60	<2.00	2.70	0.37	150.	100.								
	# Penn State	150.5	31.0	1.50	<2.00	7.80	1.43	177.	209.								
	# Brookhaven	66.1	4.3	1.50	<1.00	<0.50	0.25	64.	72.								
	# Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
25 Jul 1983	# Ithaca	37.2	19.0	<0.40	<2.00	1.90	0.33	56.	61.								

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

93/

		(H ⁺)		(NH ₄ ⁺)		(NO ₃ ⁻)		(K ⁺)		(Ca ²⁺)		(Mg ²⁺)		ANION SUM		CATION SUM	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
25 Jul 1983	# Virginia	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC
	# Oak Ridge	64.6	38.8	2.98	<2.00	9.40	1.40	137.	119.								
29 Jul 1983	# Illinois	125.9	51.8	7.98	<2.00	16.88	4.18	248.	225.								
30 Jul 1983	# Whiteface	47.9	8.7	<0.48	<2.00	2.78	0.41	74.	63.								
31 Jul 1983	# Brookhaven	128.8	16.8	2.98	<1.00	2.88	0.78	140.	153.								
1 Aug 1983	# Whiteface	74.1	11.8	0.52	<2.00	1.88	<0.48	118.	88.								
	# Ithaca	93.3	25.8	1.18	<2.00	3.58	0.66	119.	128.								
	# Illinois	53.7	31.8	21.88	<2.00	21.88	4.98	183.	158.								
	# Oxford	195.8	53.8	11.88	<2.00	33.88	6.88	363.	337.								
2 Aug 1983	# Whiteface	43.7	6.6	<0.48	<2.00	1.18	<0.28	66.	52.								
	# Penn State	128.8	23.8	1.28	<2.00	3.88	0.78	131.	162.								
	# Brookhaven	162.2	13.8	63.88	<2.00	7.18	7.78	249.	268.								
	# Lewes	41.7	8.9	3.98	<2.00	3.68	1.18	73.	64.								
	# Oak Ridge	37.2	3.1	2.68	<2.00	3.88	0.62	65.	58.								
3 Aug 1983	# Whiteface	32.4	9.6	0.46	<2.00	2.38	0.21	54.	47.								
	# Ithaca	72.4	16.8	0.44	<2.00	0.78	<0.48	82.	98.								
	# Virginia	128.2	37.8	2.38	0.69	8.88	1.78	171.	188.								
5 Aug 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	# Virginia	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	# Illinois	57.5	52.8	1.28	<2.00	14.88	1.48	158.	142.								

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
6 Aug 1983 # Whiteface	128.8	31.0	<0.50	<2.00	0.95	<0.40	167.	162.
# Virginia	151.4	24.0	<0.50	0.54	2.50	<0.20	178.	181.
# Oxford	151.4	85.0	4.10	1.90	17.00	5.50	295.	287.
7 Aug 1983 # Virginia	173.8	48.0	4.50	0.82	3.60	0.41	232.	235.
8 Aug 1983 # Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Ithaca	263.0	28.0	2.30	<2.00	10.00	3.00	344.	319.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	213.8	38.0	0.87	<2.00	9.40	1.50	292.	274.
9 Aug 1983 # Whiteface	33.9	17.0	<0.40	<2.00	3.50	0.82	56.	60.
# Ithaca	32.4	21.0	0.40	<2.00	4.30	1.20	68.	65.
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oak Ridge	302.0	85.0	1.00	<2.00	20.00	3.70	452.	435.
10 Aug 1983 # Virginia	85.1	43.0	<0.40	0.51	5.20	1.80	125.	143.
# Brookhaven	234.4	68.0	24.00	3.90	13.00	4.30	365.	365.
11 Aug 1983 # Illinois	13.2	51.0	1.60	<2.00	32.00	4.70	153.	139.
# Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Oxford	112.2	47.0	3.20	0.79	6.90	0.70	174.	178.
12 Aug 1983 # Whiteface	38.9	3.8	<0.40	<0.30	0.57	<0.20	40.	44.
# Ithaca	91.2	18.0	<0.50	<2.00	0.85	<0.40	119.	111.
# Penn State	208.9	36.0	0.57	0.31	9.90	1.40	267.	260.
# Virginia	158.5	42.0	1.00	1.20	6.00	1.00	203.	217.
# Lewes	128.8	43.0	9.30	0.51	3.30	1.40	178.	191.
# Oak Ridge	43.7	30.0	0.91	<2.00	18.00	2.30	111.	115.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

95/

	(H ⁺)	(N H ₄ ⁺)	(N A ⁺)	(K ⁺)	(C A ⁺)	(M G ⁺)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
13 Aug 1983 # Brookhaven	74.1	18.0	6.20	0.33	1.30	0.82	99.	103.
14 Aug 1983 # Lewes	120.2	17.0	23.00	0.90	3.70	4.40	172.	177.
17 Aug 1983 # Illinois	42.7	44.0	2.80	<2.00	18.00	2.70	115.	131.
18 Aug 1983 # Ithaca	389.0	78.0	1.10	1.00	13.00	2.70	523.	501.
# Penn State	309.0	63.0	1.30	0.36	7.70	0.95	404.	391.
# Virginia	53.7	17.0	1.90	<2.00	5.70	0.49	78.	85.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
20 Aug 1983 # Whiteface	195.0	84.0	5.50	3.00	38.00	8.00	402.	380.
22 Aug 1983 # Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
23 Aug 1983 # Whiteface	41.7	3.8	0.53	<0.30	1.70	<0.20	38.	49.
# Ithaca	147.9	34.0	0.73	0.64	4.40	0.82	201.	194.
# Illinois	33.1	18.0	1.80	<2.00	4.80	0.62	56.	64.
# Lewes	229.1	41.0	110.00	4.90	13.00	12.00	428.	435.
# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
24 Aug 1983 # Virginia	199.5	44.0	1.90	0.69	5.20	0.66	249.	258.
26 Aug 1983 # Illinois	58.9	22.0	1.60	<2.00	8.60	1.20	92.	102.
27 Aug 1983 # Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
28 Aug 1983 # Whiteface	134.9	44.0	4.20	1.00	16.00	2.00	214.	220.
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
29 Aug 1983 # Ithaca	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
# Virginia	257.0	26.0	1.90	0.38	5.20	0.58	290.	297.
# Illinois	123.0	34.0	1.10	<2.00	14.00	1.50	192.	189.

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
29 Aug 1983	# Brookhaven	91.2	4.4	17.00	0.56	2.00	2.50	125.	122.
	# Lewes	58.9	8.1	2.40	<0.30	<0.50	0.21	65.	70.
	# Oxford	89.1	47.0	1.30	0.64	10.00	1.90	161.	162.
30 Aug 1983	# Lewes	102.3	18.0	85.00	2.40	6.00	8.10	236.	236.
31 Aug 1983	# Whiteface	30.2	8.3	0.80	<0.30	1.10	<0.20	37.	41.
	# Ithaca	72.4	38.0	<0.40	<2.00	3.10	0.82	120.	118.
1 Sep 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Penn State	263.0	52.0	1.00	0.67	7.90	1.90	332.	336.
	# Virginia	81.3	37.0	<0.40	0.69	3.00	0.49	118.	128.
	# Brookhaven	70.8	7.4	2.50	<2.00	1.60	0.62	86.	85.
	# Lewes	79.4	31.0	6.20	0.44	1.20	0.86	119.	121.
6 Sep 1983	# Penn State	302.0	15.0	3.90	<2.00	6.70	1.50	331.	337.
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oak Ridge	60.3	13.0	2.30	<2.00	10.00	4.60	104.	105.
7 Sep 1983	# Whiteface	60.3	18.0	1.40	<2.00	6.20	0.91	100.	94.
	# Ithaca	106.2	29.0	1.60	<2.00	10.00	1.90	248.	241.
	Illinois	12.3	100.0	28.00	<2.00	75.00	12.00	282.	314.
8 Sep 1983	# Whiteface	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
12 Sep 1983	# Whiteface	138.0	68.0	13.00	<2.00	35.00	7.70	294.	304.
	# Penn State	275.4	46.0	5.10	<2.00	12.00	4.20	355.	359.
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	43.7	13.0	0.90	<0.50	3.60	0.74	72.	66.
13 Sep 1983	# Brookhaven	154.9	16.0	7.40	<2.00	3.20	1.50	181.	180.

MAP36 PRECIPITATION CHEMISTRY DATA (CONT.)

97/

		ANION						CATION	
		(H ⁺)	(NH ₄ ⁺)	(NA ⁺)	(K ⁺)	(CA ⁺⁺)	(MG ⁺⁺)	SUM	SUM
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
14 Sep 1983	# Penn State	87.1	9.4	1.00	<2.00	3.30	0.66	109.	105.
	# Virginia	123.0	13.0	3.00	<0.50	9.10	1.20	157.	160.
	# Lewes	166.0	33.0	45.00	<2.00	4.50	5.80	261.	265.
	Oak Ridge	32.4	1.6	0.55	<2.00	2.50	0.69	34.	41.
16 Sep 1983	Illinois	138.0	24.0	18.00	8.70	39.00	0.30	245.	283.
	# Oxford	213.8	45.0	1.10	<2.00	11.00	1.30	309.	284.
17 Sep 1983	# Penn State	95.5	23.0	6.20	<2.00	5.70	1.90	140.	140.
	# Brookhaven	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
18 Sep 1983	# Whiteface	69.2	15.0	4.70	<2.00	2.20	0.02	93.	95.
	# Brookhaven	218.8	83.0	69.00	<2.00	15.00	10.00	424.	421.
19 Sep 1983	# Whiteface	58.9	36.0	1.40	<2.00	6.40	1.00	94.	111.
	# Ithaca	169.0	51.0	35.00	<2.00	16.00	0.60	292.	305.
20 Sep 1983	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	# Oxford	53.7	<0.5	1.90	<1.00	6.50	1.50	78.	72.
21 Sep 1983	Illinois	57.5	14.0	1.70	<1.00	2.80	0.69	81.	80.
	# Oxford	27.5	7.4	0.59	<2.00	2.10	0.25	40.	40.
22 Sep 1983	# Whiteface	10.2	<0.5	<0.50	<0.50	<0.50	<0.20	9.	10.
	# Ithaca	31.6	5.9	0.50	<2.00	<0.50	<0.20	37.	30.
	# Penn State	23.4	2.5	<0.40	<2.00	0.62	<0.20	24.	27.
	# Virginia	41.7	9.6	1.70	<2.00	0.75	0.25	50.	55.
	# Brookhaven	17.4	2.7	20.00	<2.00	0.75	3.10	50.	56.
	# Lewes	20.9	3.2	77.00	<2.00	1.10	8.20	125.	120.
	Oak Ridge	35.5	2.2	1.60	<2.00	1.30	0.52	42.	43.

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

98/

		(H ⁺)		(NH ₄ ⁺)		(NA ⁺)		(K ⁺)		(CA ⁺)		(MG ⁺)		ANION		CATION	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
23 Sep 1983	# Whiteface	69.2	25.0	0.70	<0.50	3.10	0.62	92.	102.								
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
26 Sep 1983	# Ithaca	102.3	7.6	1.20	<2.00	7.00	1.40	134.	130.								
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
27 Sep 1983	# Whiteface	154.9	120.0	2.10	<2.00	9.20	2.20	304.	300.								
1 Oct 1983	Penn State	17.0	2.5	2.00	<2.00	3.00	0.62	28.	29.								
	# Virginia	22.9	<0.5	1.30	<2.00	<0.50	<0.20	20.	24.								
	Lewes	11.7	<2.0	130.00	<2.00	2.00	13.00	158.	172.								
2 Oct 1983	Brookhaven	20.9	3.0	59.00	<2.00	1.50	6.30	94.	99.								
3 Oct 1983	Lewes	49.0	23.0	4.50	<2.00	0.85	0.49	87.	79.								
4 Oct 1983	Oxford	28.2	4.3	0.97	<1.00	2.80	0.48	34.	40.								
5 Oct 1983	Oxford	45.7	13.0	0.77	<1.00	1.70	<0.20	54.	63.								
6 Oct 1983	Whiteface	56.2	13.0	0.79	<2.00	2.90	0.48	77.	77.								
	# Ithaca	104.7	9.6	1.10	<2.00	4.80	0.82	120.	127.								
	Penn State	134.9	8.9	3.00	<2.00	8.80	0.99	149.	167.								
	Brookhaven	125.9	51.0	58.00	<6.00	7.60	6.90	262.	264.								
	Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	Oak Ridge	32.4	2.5	1.20	<2.00	1.40	0.35	36.	40.								
7 Oct 1983	Whiteface	42.7	20.0	0.91	2.00	2.90	0.52	73.	72.								
	Ithaca	39.8	64.0	0.65	<2.00	14.00	6.30	148.	145.								
9 Oct 1983	Whiteface	112.2	29.0	1.00	<2.00	8.10	1.00	168.	160.								
10 Oct 1983	Illinois	6.5	55.0	5.20	<1.00	53.00	11.00	190.	195.								
12 Oct 1983	Virginia	45.7	11.0	4.10	<4.00	1.70	4.50	103.	73.								

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

99/

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
12 Oct 1983	Illinois	33.1	11.0	0.88	<2.00	1.20	0.43	43.	48.
	Lewes	9.3	3.5	220.00	3.40	3.70	22.00	286.	288.
13 Oct 1983	Whiteface	12.6	0.8	6.80	<1.00	1.20	0.95	20.	24.
	# Ithaca	37.2	5.5	14.00	<2.00	1.70	1.90	64.	64.
	Penn State	81.3	13.0	26.00	<3.00	4.00	3.00	119.	134.
	Illinois	12.3	19.0	4.00	<2.00	4.30	2.10	52.	48.
	# Oxford	33.1	4.1	0.71	<1.00	1.60	0.26	38.	42.
14 Oct 1983	# Whiteface	RPC	RPC	RPC	RPC	RPC	RPC	RPC	RPC
	Ithaca	17.0	2.6	<0.50	<2.00	<0.50	<0.20	19.	20.
	Penn State	16.2	2.9	1.00	<2.00	1.00	<0.20	15.	22.
	Virginia	23.4	5.3	2.10	<2.00	0.84	0.26	26.	33.
	Illinois	17.4	49.0	1.30	<3.00	14.00	2.40	93.	100.
	# Brookhaven	MOE	MOE	MOE	MOE	MOE	MOE	MOE	MOE
	Lewes	13.2	16.0	24.00	<2.00	1.20	2.20	63.	60.
	# Oak Ridge	26.9	2.0	1.10	<1.00	1.30	0.35	33.	33.
16 Oct 1983	Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
17 Oct 1983	# Whiteface	25.7	16.0	0.91	2.70	6.00	1.40	59.	60.
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
18 Oct 1983	Illinois	70.8	40.0	3.90	<3.00	21.00	10.00	176.	177.
19 Oct 1983	Penn State	72.4	0.5	1.20	<2.00	2.40	<0.20	71.	07.
	Brookhaven	112.2	19.0	20.00	<3.00	1.70	2.10	148.	159.
	Oxford	61.7	19.0	0.61	<2.00	2.40	0.48	86.	87.
21 Oct 1983	Ithaca	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

100/

		(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
21 Oct 1983	Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
22 Oct 1983	# Virginia	44.7	12.0	7.20	24.00	1.40	2.50	85.	96.
23 Oct 1983	# Oxford	56.2	5.1	0.24	<2.00	0.58	<0.20	49.	63.
24 Oct 1983	# Whiteface	24.0	0.6	1.00	<1.00	1.00	<0.20	24.	28.
	Ithaca	42.7	1.2	<0.50	<2.00	0.65	<0.20	40.	45.
	Penn State	31.6	5.0	3.70	<2.00	1.10	0.48	36.	43.
	# Virginia	11.2	0.5	1.10	<2.00	<0.20	<0.20	6.	13.
	Illinois	47.9	6.0	0.89	<2.00	1.20	<0.20	54.	57.
	Brookhaven	13.2	1.0	33.00	<1.50	0.65	3.40	47.	56.
	Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
25 Oct 1983	Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
	Virginia	117.5	6.9	0.51	<1.00	4.70	0.29	126.	135.
	Oak Ridge	19.1	1.1	0.93	<1.00	1.10	<0.20	23.	23.
26 Oct 1983	Penn State	147.9	14.0	2.70	<2.00	2.60	0.48	144.	171.
	Lewes	13.8	1.6	70.00	<1.00	1.80	7.40	97.	104.
27 Oct 1983	Ithaca	44.7	8.8	0.57	<1.00	0.34	<0.20	50.	55.
28 Oct 1983	# Whiteface	46.8	5.3	1.50	<1.00	2.30	0.26	51.	59.
30 Oct 1983	Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
31 Oct 1983	# Whiteface	26.9	39.0	1.40	<2.00	12.00	3.60	94.	99.
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
3 Nov 1983	Illinois	40.7	16.8	1.80	<2.00	1.40	0.43	60.	62.
	# Oxford	109.6	31.0	9.90	<2.00	4.50	1.60	144.	163.
4 Nov 1983	# Whiteface	31.6	1.9	1.70	<1.00	0.97	<0.20	29.	37.

MAP35 PRECIPITATION CHEMISTRY DATA (CONT.)

101/

		H ⁺		NH ₄ ⁺		Na ⁺		K ⁺		Ca ²⁺		Mg ²⁺		ANION		CATION	
		(H ⁺)	(NH ₄ ⁺)	(Na ⁺)	(K ⁺)	(Ca ²⁺)	(Mg ²⁺)	(ANION)	(CATION)	(Ca ²⁺)	(Mg ²⁺)	(ANION)	(CATION)	(ANION)	(CATION)	(ANION)	(CATION)
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
4 Nov 1983	Ithaca	89.1	13.0	1.20	<1.00	1.20	0.26	91.	106.								
	† Penn State	61.7	11.0	2.10	<1.00	8.10	1.90	92.	95.								
	Brookhaven	58.9	13.0	13.00	<1.00	1.20	1.90	90.	91.								
	Lewes	120.8	30.0	110.00	<1.00	5.20	13.00	296.	305.								
	Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	Oak Ridge	70.8	19.0	2.30	<1.00	3.50	0.52	95.	100.								
7 Nov 1983	† Whiteface	16.2	2.7	<0.50	<0.50	0.65	<0.20	19.	20.								
	† Ithaca	39.8	4.1	<0.50	<1.00	<0.50	<0.20	40.	44.								
	† Penn State	56.2	3.0	1.90	<1.00	0.76	<0.20	50.	63.								
	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
11 Nov 1983	† Penn State	46.8	4.5	1.20	<1.00	0.74	0.24	53.	54.								
	Virginia	21.9	2.6	2.40	<1.00	0.59	0.40	28.	29.								
	Illinois	44.7	15.0	0.94	<1.00	2.20	0.32	61.	66.								
	Lewes	28.2	1.0	130.00	0.65	3.10	13.00	183.	193.								
	Oak Ridge	72.4	11.0	1.90	<1.00	4.40	0.74	70.	96.								
12 Nov 1983	Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	† Oxford	44.7	4.9	<0.50	<0.50	0.56	<0.20	49.	51.								
13 Nov 1983	† Whiteface	34.7	6.5	<0.50	<0.50	<0.20	<0.20	36.	41.								
	† Ithaca	49.0	7.1	0.80	<1.00	0.20	<0.20	57.	57.								
	† Penn State	31.6	1.3	0.42	<2.00	1.10	0.35	32.	36.								
14 Nov 1983	† Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
	Brookhaven	28.2	4.5	6.50	<1.00	0.54	0.84	36.	42.								
15 Nov 1983	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								

		(H ⁺)		(NH ₄ ⁺)		(NO ₃ ⁻)		(K ⁺)		(Ca ²⁺)		(Mg ²⁺)		ANION SUM		CATION SUM	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
15 Nov 1983	Oak Ridge	44.7	0.4	2.10	<1.00	5.90	0.95	63.	69.								
16 Nov 1983	Ithaca	41.7	6.3	2.10	<1.00	0.30	0.32	50.	51.								
	# Penn State	44.7	6.5	0.44	<2.00	0.70	<0.20	46.	53.								
	Virginia	57.5	9.7	0.58	<1.00	2.20	<0.20	66.	72.								
	# Illinois	74.1	74.0	2.30	<1.00	1.90	0.87	151.	156.								
	Lewes	42.7	4.3	93.00	0.73	2.10	9.50	162.	164.								
	Oxford	52.5	18.0	<0.50	<0.50	1.70	<0.20	62.	74.								
17 Nov 1983	Brookhaven	16.2	0.6	23.00	<1.00	0.61	2.50	40.	46.								
	Lewes	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
18 Nov 1983	# Whiteface	16.6	1.4	<0.50	<0.50	0.30	<0.20	16.	19.								
	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
19 Nov 1983	# Ithaca	37.2	4.3	0.40	<1.00	0.22	<0.20	42.	42.								
	Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
20 Nov 1983	# Oxford	50.1	11.0	14.00	<0.50	4.10	1.00	82.	87.								
21 Nov 1983	# Whiteface	19.5	1.5	<0.50	<0.50	<0.20	<0.20	18.	21.								
	Ithaca	22.4	2.1	1.00	<1.00	0.11	<0.20	25.	26.								
	Penn State	34.7	3.4	4.10	<2.00	0.64	0.60	43.	45.								
	Virginia	15.5	4.4	21.00	<1.00	1.40	2.50	50.	49.								
	# Illinois	34.7	23.0	14.00	<1.00	6.90	2.60	90.	91.								
	Brookhaven	16.2	1.0	47.00	<1.00	2.30	5.00	70.	79.								
	Lewes	11.5	1.5	34.00	<0.50	1.10	3.70	55.	57.								
	Oak Ridge	17.0	2.2	1.20	<1.00	1.30	<0.20	20.	23.								
23 Nov 1983	# Illinois	33.9	7.9	1.40	<1.00	1.40	0.35	46.	47.								

MAP35 PRECIPITATION CHEMISTRY DATA (CONT.)

103/

		N		H		N		K		C		M		A N I O N		C A T I O N	
		(N +)		(H +)		(N +)		(K +)		(C +)		(M +)		S U M		S U M	
		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UEQ/L		UEQ/L	
25 Nov 1983	# Penn State	66.1		6.2		5.60		<2.00		1.70		0.32		75.		82.	
	# Lewes	19.1		2.4		78.00		1.60		4.20		7.30		113.		124.	
	# Oxford	29.5		3.9		2.30		<0.50		1.30		0.43		37.		39.	
26 Nov 1983	Virginia	24.5		0.6		0.73		<0.50		0.47		<0.20		26.		27.	
27 Nov 1983	# Ithaca	57.5		12.0		<0.40		<1.00		1.20		0.24		64.		72.	
	# Penn State	ISA		ISA		ISA		ISA		ISA		ISA		ISA		ISA	
28 Nov 1983	# Whiteface	26.3		2.8		<0.50		<0.50		0.49		<0.20		27.		30.	
	# Illinois	41.7		4.0		1.60		<1.00		1.30		0.43		43.		51.	
	Brookhaven	12.0		0.9		16.00		<1.00		0.51		1.80		34.		34.	
	# Oxford	50.1		3.6		0.72		<0.50		1.00		0.24		40.		57.	
	Oak Ridge	24.5		1.1		1.60		<0.50		1.30		0.33		30.		31.	
29 Nov 1983	# Whiteface	20.8		1.8		0.73		<0.50		0.24		<0.20		25.		32.	
	Ithaca	45.7		2.9		0.46		<1.00		1.10		<0.20		46.		51.	
	Penn State	72.4		6.6		0.80		<2.00		0.90		0.24		69.		82.	
	Virginia	114.8		20.0		26.00		<1.00		4.00		2.90		161.		175.	
	Brookhaven	75.9		10.0		160.00		<1.00		4.60		16.00		298.		287.	
1 Dec 1983	# Whiteface	77.6		20.0		0.50		<1.00		2.30		0.51		108.		112.	
2 Dec 1983	# Illinois	53.7		17.0		1.40		<0.50		5.50		0.86		80.		85.	
3 Dec 1983	# Penn State	30.2		1.3		<0.40		<2.00		1.50		0.24		38.		35.	
	# Oxford	55.0		9.3		1.40		<0.50		3.00		0.63		70.		75.	
4 Dec 1983	Virginia	55.0		4.7		1.30		<0.50		0.25		<0.20		76.		61.	
	# Brookhaven	57.5		3.4		2.90		<0.40		1.70		0.45		68.		68.	
	Lewes	29.5		1.9		190.00		0.57		4.10		21.00		289.		272.	

		(H ⁺)		(NH ₄ ⁺)		(NO ₃ ⁻)		(K ⁺)		(Ca ²⁺)		(Mg ²⁺)		ANION		CATION	
		UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L	UEQ/L	UEQ/L
4 Dec 1983	Oxford	56.2	4.9	<0.50	1.10	0.22	<0.20	89.	63.								
5 Dec 1983	# Whiteface	10.2	<0.5	0.46	<0.40	<0.20	<0.20	12.	11.								
	# Ithaca	24.5	2.5	0.60	<1.00	0.91	0.28	31.	30.								
	# Penn State	47.9	2.5	<0.50	<0.40	0.57	<0.20	53.	52.								
	# Illinois	43.7	4.1	2.30	0.87	0.92	0.29	59.	53.								
	Brookhaven	23.4	1.5	54.00	<0.50	1.10	5.60	91.	92.								
	Oak Ridge	55.0	2.8	2.20	<0.40	2.00	0.49	55.	65.								
7 Dec 1983	# Penn State	66.1	6.1	0.49	<0.40	0.30	<0.20	69.	73.								
	# Illinois	83.2	35.0	2.70	<0.50	15.00	2.60	145.	156.								
	Brookhaven	63.1	4.3	36.00	<0.50	1.00	3.80	105.	113.								
	Lewes	50.1	9.5	22.00	<0.40	0.70	2.10	75.	87.								
	# Oxford	87.1	13.0	2.60	<1.00	5.70	0.74	135.	116.								
	Oak Ridge	37.2	6.7	1.30	<0.50	1.30	0.21	39.	40.								
8 Dec 1983	# Whiteface	37.2	1.0	<0.50	<0.40	0.25	<0.20	44.	39.								
	# Ithaca	63.1	4.1	0.92	<0.50	0.50	<0.20	57.	69.								
	# Illinois	53.7	5.0	3.40	<0.50	12.00	1.70	96.	90.								
	# Oxford	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
9 Dec 1983	Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
10 Dec 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
12 Dec 1983	Illinois	49.0	5.3	0.75	<0.50	0.65	<0.20	52.	56.								
	Lewes	20.9	1.1	320.00	2.10	6.40	34.00	462.	425.								
13 Dec 1983	Virginia	33.9	3.6	26.00	<0.40	0.57	2.70	78.	70.								
	# Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

105/

		(H)		(N H ₄)		(N A)		(R)		(C A)		(M G)		A N I O N		C A T I O N	
		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L	
		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L		UMOL/L	
13 Dec 1983	Oak Ridge	24.0	0.6	<0.50	<0.40	2.90	0.33	27.	31.								
14 Dec 1983	Ithaca	18.2	0.9	0.60	<0.50	<0.20	<0.20	18.	20.								
	Penn State	20.4	0.7	0.59	<0.40	0.30	<0.20	24.	22.								
	Brookhaven	31.6	1.7	170.00	<0.50	3.30	17.00	241.	244.								
	Lewes	7.2	<1.0	190.00	1.60	3.80	21.00	265.	240.								
15 Dec 1983	Whiteface	15.1	0.7	1.00	<0.40	<0.20	<0.20	18.	17.								
	Lewes	17.8	3.0	1.80	<0.40	2.20	0.29	24.	20.								
	# Oxford	70.8	6.0	2.60	<0.40	2.50	0.53	93.	86.								
	Oak Ridge	61.7	12.0	6.30	<0.40	5.80	1.30	82.	94.								
16 Dec 1983	# Illinois	47.9	8.4	1.00	<0.50	3.60	0.62	79.	66.								
	Brookhaven	21.4	2.3	23.00	<0.40	2.60	2.60	65.	57.								
17 Dec 1983	# Penn State	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA								
19 Dec 1983	# Whiteface	81.3	9.6	1.10	<0.40	0.95	0.21	101.	94.								
20 Dec 1983	# Ithaca	21.4	6.6	20.00	<0.40	23.00	3.70	100.	101.								
22 Dec 1983	# Virginia	34.7	1.9	1.60	<0.50	<0.20	0.21	35.	39.								
	# Illinois	13.2	2.6	2.50	<0.40	4.50	0.82	31.	29.								
	# Oxford	55.0	6.5	0.91	<1.00	1.60	<0.20	69.	66.								
23 Dec 1983	# Penn State	27.5	1.3	<0.50	<0.50	1.20	0.29	33.	32.								
	Brookhaven	14.1	1.1	81.00	<0.40	1.70	0.80	117.	117.								
	Lewes	13.2	0.9	170.00	0.59	3.40	19.00	238.	230.								
24 Dec 1983	# Penn State	58.9	3.9	2.90	<0.40	3.20	0.78	82.	74.								
25 Dec 1983	# Ithaca	26.3	1.0	1.50	<0.40	1.10	0.41	27.	33.								
27 Dec 1983	# Whiteface	47.9	2.9	1.30	<0.50	1.30	0.29	53.	55.								

MAP3S PRECIPITATION CHEMISTRY DATA (CONT.)

186/

	(H +)	(N H 4 +)	(N A +)	(K +)	(C A +)	(M G +)	A N I O N S U M	C A T I O N S U M
	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UMOL/L	UEQ/L	UEQ/L
27 Dec 1983 # Illinois	ISA	ISA	ISA	ISA	ISA	ISA	ISA	ISA
29 Dec 1983 # Whiteface	38.9	8.8	<8.58	<8.58	<8.28	<8.28	29.	32.
Penn State	36.3	2.3	8.57	<8.58	1.18	<8.28	44.	41.
# Illinois	41.7	8.6	2.78	<8.58	6.68	1.68	91.	69.
Brookhaven	22.9	2.6	73.88	<8.48	1.88	7.98	112.	118.
# Lewes	16.2	3.2	13.88	<8.48	8.88	1.58	44.	37.
# Oxford	48.7	18.8	2.48	<8.58	3.38	8.45	65.	61.
# Oak Ridge	33.9	1.8	<8.58	<8.58	1.68	<8.28	33.	39.

MISSING DATA CODES:

NSC MEANS NO SAMPLE COLLECTED
 ISA MEANS INSUFFICIENT SAMPLE FOR ANALYSIS
 NAP MEANS NO ANALYSIS PERFORMED
 MOE MEANS MALFUNCTION OR OPERATOR ERROR
 RPC MEANS REJECTED - PROBABLE CONTAMINATION

TABLE 3. Sample Notes

A22	- Equipment failure - some data loss							
	83101380	83102380	83111280	83111650	83112150	83112350	83112850	83120520
	83122280							
A26	- Sample inadvertently discarded in field							
	83101460	83110380	83120880					
A30	- No explanation from operator							
	83120850							
A32	- Wet side open until sample collected							
	83100140	83110710	83112810	83122710				
B31	- Alternate rain gauge used							
	83101710	83102410	83102810	83103110	83110410	83110710	83111310	83111810
	83112110	83112810	83112910					
B34	- Snowbridge or ice problems							
	83120750	83121650	83122250	83122950				
B36	- Sample frozen							
	83122990							
B38	- Organic debris in sample							
	83100620	83101320	83101410	83122710				
B39	- Unidentified debris in sample							
	83101490							
B41	- Dust/dirt in sample							
	83112080	83112580	83112880	83120380				
B43	- Bird droppings in sample							
	83102240							
D21	- Equipment failure - part of event missed							
	83100140	83102440	83122240	83122520				
D22	- Possible operator contamination							
	83102810	83122970						
D23	- Field pH suspect due to procedure							
	83101380							
M	- Mixed rain and snow							
	83120460	83120530	83120730	83120780	83120820	83121580	83122280	83122330
	83122990							
S	- Snow							
	83110410	83110430	83110710	83110720	83110730	83111130	83111280	83111310
	83111320	83111330	83111450	83111630	83111810	83111830	83111920	83112530
	83112570	83112720	83112730	83112810	83112850	83120110	83120250	83120330
	83120510	83120520	83120550	83120750	83120810	83120850	83120880	83121030
	83121350	83121650	83121730	83121910	83122020	83122250	83122430	83122520
	83122710	83122750	83122910	83122950	83122980			

TABLE 4. Sample Note Codes Ordered by Sample ID

83100140	A32	D21				83100620	B38				83101320	B38			
83101380	A22	D23				83101410	B38				83101460	A26			
83101490	B39					83101710	B31				83102240	B43	B		
83102380	A22					83102410	B31				83102440	D21	B		
83102540	B					83102810	B31	D22			83103110	B31			
83110380	A26					83110410	B31	S			83110430	S			
83110710	B31	A32	S			83110720	S				83110730	S			
83111130	S					83111280	A22	S			83111310	B31	S		
83111320	S					83111330	S				83111450	S			
83111630	S					83111650	A22				83111810	B31	S		
83111830	S					83111920	S				83112080	B41			
83112110	B31					83112150	A22				83112350	A22			
83112530	S					83112570	S				83112580	B41			
83112720	S					83112730	S				83112810	A32	B31	S	
83112850	A22	S				83112880	B41				83112910	B31			
83120110	S					83120250	S				83120330	S			
83120380	B41					83120460	M				83120510	S			
83120520	A22	S				83120530	M				83120550	S			
83120730	M					83120750	B34	S			83120780	M			
83120810	S					83120820	M				83120850	A38	S		
83120880	A26	S				83121030	S				83121350	S			
83121580	M					83121650	B34	S			83121730	S			
83121910	S					83122020	S				83122240	D21			
83122250	B34	S				83122280	A22	M			83122330	M			
83122430	S					83122520	D21	S			83122710	A32	B38	S	
83122750	S		S			83122910	S				83122950	B34	S		
83122970	D22					83122980	S				83122990	B36	M		
83122970	D22					83122980	S				83122990	B36	M		

TABLE 5. Chemistry Network Rain Gauge Data

WHITEFACE

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	-	-	-	-	-	-	-	-	.03	-
8	-	-	-	-	.03	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.03	-	-	-	-	-	-	-
11	-	-	-	-	-	-	.03	.25	.05	.03	-	-	-	-	.03	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	.03	.03	.03	-	-	-	.03	-	-	.03	.05	-	.03	-	-	.03	.03	.03	.03	.05	.05
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.08	.23	.20	.25	.15	.05	.08	.13	.08
24	.03	.20	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	.03	-	-	.13	-	.03
26	-	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	.05	-	.03	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.05	.08	.03	-	-	.03	.05
3	-	-	-	-	-	-	-	-	-	.13	.13	.05	.08	.08	.08	.10	.05	.03	.03	-	-	.05	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.03	.05	.05	.10	.08	.08	.03	.05
8	.05	.03	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	.03	.10	.03	.03	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	.03	-
26	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.08	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	.03	.13	.08	.08	.03	-	-	.03	.08	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.13	.08	.03	.10	.08
11	.08	.05	.03	.03	.03	.03	-	-	.03	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.05	.08	.10	.13	.08	.10	.10	.03
13	.05	.05	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
19	.10	.03	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-	-	-	-	-	-	-	-	.05
20	.03	.05	.10	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	<	<	.03	-	>	-	-	-	.03	-	.05	.05	.15	.18	.36	.05	.05
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.03
28	.08	.08	.03	.03	-	-	.03	.05	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	.03	-
29	-	.05	.03	-	-	.03	-	.03	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.20	.13	-	.05	.03	-	-	-	-
4	-	-	-	-	-	-	-	-	-	.03	.05	.08	-	-	-	-	-	-	-	-	-	.03	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.30	.05	-	-	-	.15	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	.03	.08	.13	.33	.15	.13	.15	.20
11	.03	.10	.03	.23	.03	-	-	-	.03	-	-	-	-	-	-	-	-	.03	.08	-	-	-	.03	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	.03	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-
16	-	-	-	.03	.03	.03	-	-	.03	.03	-	-	-	-	.05	.05	.08	.03	.13	.10	.03	.08	.10	.08
17	.08	.05	.03	.03	.03	.03	-	.03	.03	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	.08	.13	.20	.30	.23	.28	.10	.03	.05	.03	.05	.10
20	.03	-	-	-	-	-	-	-	-	.05	.23	.15	.13	.03	-	.03	.15	.10	.10	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.08
22	.05	.03	.03	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	.03	.03	.03	-	.03	-	.03	.05	.10	.20	.15	.10	.08	.05	-
25	.03	.05	-	-	-	-	.05	.10	.03	.05	-	-	.03	-	-	.20	.03	-	.03	.03	.03	-	-	-
26	-	-	-	-	-	-	-	-	-	.05	-	-	-	.03	.03	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05
28	.03	-	-	-	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	.33	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	.03	.13	.08	-	-	-	.03	.10	.03	-	-	-	.03	.05	-	.03	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.79	.10	-	-	-	-	.03	-	-	.03	.08	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	.08	.05	.03	-	.05	.18	.08	.03	.05	-	.05	-	-	-	-	-	-	-	-	-
3	-	-	.03	.84	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	.18	.10	.03	-	-	-	.03	.03	.03	.05	-	-	-	-	-	-	-	-	-	.03	.03	.03
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.05	.05	.10	.10
9	.08	.18	.08	.05	.03	.05	.03	-	-	.03	.03	.03	-	.05	.05	.08	.05	.05	.05	.03	.03	-	-	.03
10	-	-	.03	-	-	-	.03	.03	-	-	-	-	-	-	-	-	.03	-	-	.03	.03	-	.03	.03
11	.03	-	.03	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	.08	.10	.03	.05	-	-	-	-	-	-	-	-	-	-	.03	.08
16	.10	.08	.08	.08	.08	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	.03	.03	.03	.03	.03	-	-	-	-	.03	.03	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	.03	-	.03	-	.03	-	-	-	-	-	-	-	-	-	-	-	.36	-	-	-	-	.18
24	-	-	-	-	-	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	.23	.08	-	-	-	-	-	-	-	-	-	-	-
27	.15	.05	.46	.36	.18	.23	.10	.03	.05	-	-	-	.03	-	.05	-	-	-	-	-	-	-	-	.03
28	.03	-	.10	-	-	.08	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	.13	-	-	.13	.08	-	-	.25	-	-	.23	.08	-	-	-	-	-	-
31	-	-	-	-	-	-	.03	-	-	-	-	.03	.03	.10	.23	.15	.13	.03	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.15
4	.18	.03	.03	-	.08	.05	.05	.05	.03	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.55	.33	.08	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	-
11	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.92	.25	.05	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.10	.03	.18	.43	.43	.23	-	-
18	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	.28	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	.03	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	.08	.18	.08	.23	.20	.13	.08	-	-	-	-	-
27	-	-	-	-	-	1.07	.25	-	-	-	.25	-	-	-	-	-	-	-	.23	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.05	-	-	-	-	-	.03
3	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	.03	.23	.10	.03	-	-	-	-	.05	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	.18	.28	.08	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	.18	.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.56	.03	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	.66	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	<	-	1.12	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.58	.25	-	-	.46

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.13	-	.05	.20	-	-	-	-	-	-	-	-	-	.03	.28	.05	.05	.03	-	-	-	-	-	-
2	-	-	-	.08	.23	.03	-	.03	-	-	-	-	.03	-	-	-	-	-	.15	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	1.55	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	-	-
7	-	-	-	.10	.28	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.42	-	-	-	.28
9	.30	.48	.15	.03	-	.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.23	.25	.28	.18	.18	.20
12	.41	.15	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.41	.20	.28	-
31	.30	.18	.13	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	.03	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	.10	.00	-	-	-	-	-	.03	.03	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	.03	-	-	-	-	-	.03	-	-	-	.03	-	-	-	-	-	-	-	-
11	-	-	.03	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	.05	.03	-	-	.03	-	.10	.25	.03	-	-	-	.03	.13	.03	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	.03	.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.74	.48	.33	.10	-
22	-	-	.15	.23	.13	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-
23	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.18	.10	-	-	-	-
6	-	.03	.15	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	.15	.08	-	-	-	.03	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	.05
9	.10	.05	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	.08	.10	.20	.28
13	.30	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	.99	.15	.05	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	.05	-	.13	.20	-	-	-	.10	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.08	.08	.20	.25	.05	.10	.05
24	.05	-	-	-	.03	.03	.05	.13	.08	.10	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.05	.05	-	-	-	-	-	-	-
27	-	-	-	-	-	.03	-	-	.03	.03	-	-	-	-	-	-	-	-	-	.03	.03	-	.03	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	.63	.03	.03	.03	.05	.03	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	.03	.03	.10	-	.05	.03	.03	.03	.03	-	-	-	-	-	.03	-	-	-
4	-	-	-	-	-	-	-	-	-	-	.20	.10	.30	.08	.10	.36	.63	.13	.28	.30	.36	.28	.20	.28
5	.13	.10	.08	-	-	-	-	.05	.08	.05	.08	.10	.08	.05	.10	.00	.05	.10	.13	.13	.05	.03	.05	.08
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	.05	.46	.38	.38	.28	.36	.10	.15	.05	.08	.08	.05	.10	.03	-	.05	.03	.03	-	-	-	.03
12	.05	.56	.20	.25	-	-	-	.13	-	-	-	.08	.05	.10	.13	-	-	-	.13	.03	.05	-	-	.03
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
16	.03	-	-	.03	.03	.08	.05	.05	.10	.15	.18	.13	.05	.20	.03	.03	.08	.05	.03	.03	.08	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.08	.03	-	.03	.08	-	.03	.03
18	.03	.03	.03	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	.08	.03	.05	.10	.63	.51	.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-
25	.03	.13	.08	.05	.13	.13	.25	.10	.03	.05	.05	.15	.10	.05	.10	.13	.13	.13	.18	.38	.08	.08	-	-
26	-	-	-	-	-	-	.05	.03	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.05	.03
29	.03	.03	.13	.03	.03	.05	.15	.10	.03	.03	.25	.08	.13	.28	.05	.05	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

WHITEFACE

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	.05	.03	.05	.05	-	-	-	-	-	-	.03	-	-	-	-	.10	-	-	-	-	-	-
2	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.25	.13	.00	.00	.03	.05	.05	.03
5	.03	.03	-	-	-	-	-	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.25	.03	-	.10	.05
7	.30	.25	.15	.23	.40	.15	.10	.13	.00	.03	.10	.03	.03	.03	.03	.03	.03	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	-	.03	.05	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	.15	.10	.20
13	.30	.40	.30	.20	.40	.33	.05	.05	.30	.00	.10	.05	.20	.15	.33	.20	.30	.30	.03	.25	.23	.05	.00	.15
14	.30	.10	.33	.23	.10	.15	.36	.03	.03	.13	.05	.15	.03	.03	.03	.05	.00	.03	.03	.15	-	-	-	-
15	-	.03	.05	.03	.00	-	-	-	-	-	-	-	-	-	.10	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	.03	.05	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	.03	.03	.05	-	-	.03	.03	.03	-	.03	.05	.03	-	.10	.10	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-
25	.03	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	.03	.10	.15
29	.00	.13	.33	.03	.03	.10	-	.03	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	-	-
30	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	.13	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3B Precipitation Chemistry Network Rain Gauge Data

ITHACA

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	.10	-	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	.10	.13	.25	-	.10	.13	.13	.13	-	-	.00	-	-	-	-	.00	.05	.00	.13	.30	.10	.13
16	.00	.05	.13	.13	.05	-	-	-	.00	-	-	-	.00	-	-	-	-	.00	.05	.00	.13	.30	.10	.13
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	<	-	-	-	-	.51	-	-	-	-	-	>	-	-	-
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23	-	-	-	-	-	.20	-	-	-	-	.10	.10	.10	.10	-	-	-	-	.05	.15	-	-	-	-
24	-	-	-	-	-	-	.10	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.10	-	-	-	-
31	-	-	-	-	-	.13	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
NL - Missing, precipitation likely
MU - Missing, precipitation unlikely
< > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	.05	-	-	-	.13	.10	.08	-	-	-
3	.05	.56	-	-	-	1.14	.05	-	-	-	-	.08	-	-	.05	-	-	-	-	-	-	.05	-	-
4	-	-	-	-	-	-	-	-	.10	.10	-	.05	-	.05	-	.05	-	-	-	-	-	-	-	.05
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	.08	-	-	.08	-	.10	.05	-	.10	-	.10	.10	.05	.08	.05	.08	.05	-
8	-	.08	-	.10	.05	.10	-	.05	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	.30	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.15	.05	.15	.20	.03	.15	.10	.05	.05
11	.08	.03	-	-	.08	-	.05	.03	.05	.03	.03	-	-	.03	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	.08	-	-	.05	-	-	-	-	-	.05	-	.05	-	-	-	-	.08	.05	.05	.05	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	.05	.05	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.08	.05	.08	.10
19	-	-	-	-	-	.10	.15	.05	-	-	-	.10	.05	-	-	.05	-	-	-	.05	.03	.05	.05	.03
20	-	-	-	.05	-	.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	.10	-	-	.05	.10	.46	.03	-	.30	-	.18	.03	.03	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.30	.25	.08
28	.05	.30	.10	.08	-	-	-	-	-	-	-	-	.05	-	.08	-	.05	-	-	-	-	-	-	.05
29	-	.05	-	-	-	-	.08	.05	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	.05	.10	.25	.10	.23	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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7	-	-	-	-	-	-	-	-	-	-	-	-	.30	.30	.10	.08	.10	-	-	-	-	-	.05	-
8	-	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
10	.05	-	-	-	-	.05	.15	.15	.05	.15	.20	.20	.10	.05	-	.05	-	.05	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.30	.03	-	.03	.05	.08	-
12	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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15	-	-	-	-	-	-	-	-	.10	.25	.91	.51	.46	.10	.10	.10	.03	.08	.15	.10	.20	.36	.15	.23
16	.05	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	.36	-	.25	.23	.03	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	>	-	-	-	-	-	-	-	-	-	-	-	<.25	>	.10	.10	.30	.30	.08	.25	.15
21	.25	.25	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	-	-	.15	.08	.05	.05	-	.05	.05	-	.15	.15	.20	.41	.20	.30	-	.15	.10	-	.05
26	-	.10	.08	.10	.10	.08	.15	.10	.10	.15	.41	.15	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	.05	.20	.20	.10	.10	.63	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	-	-	.05	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

ITHACA

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	.05	.15	.18	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	.13	.10	.13	.10
2	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	.05	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.10	-	.05	.05
4	-	-	.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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20	.15	.05	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	.20	.10	-	.25	.10	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.15	-	-	-	.05
24	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	.05	-	.03	.03	-	.25	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	.25	.25	-	-
31	-	-	-	-	.05	.20	.15	.10	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.61

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

ITHACA

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	.05	.05	.03	.03	.05	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	.23	.05	.10	.10	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	.05	.41	.25	.03	.20	.15	.66	.36	1.47	.06	.15	.05	.10	.15	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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24	-	1.83	.76	-	-	-	-	-	-	-	-	-	.63	-	-	-	.18	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	1.42	.56	.33	-	-	-	-	-	-	-	-
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4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	-
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6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	.05	-	.05	.05	-	.20	.20	-	-	-	-	-	-	-	-
12	-	-	-	-	-	.10	1.52	.46	.46	.20	.13	.05	-	.05	.05	.05	-	-	-	-	-	-	-	-
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31	-	-	.15	-	-	.10	.36	-	.03	-	.03	-	-	-	-	.03	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

ITHACA

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	.15	.03	-	.46	-	-	-	-	-	-	-	-	.03	.03	-
5	-	-	-	-	-	-	-	-	-	-	.03	-	.03	.05	.15	.15	.03	.03	-	-	.46	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.23	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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12	-	-	-	-	-	-	-	-	-	-	-	-	.25	.23	-	.23	.08	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	.28	.13	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.30
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	.18	.15	.10	.10	.18	.08	-	.23	.10	-	.08	.05	.10	.15	-
24	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	.05	-	.05	-	.10	.10	.15	.15	.05	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	.03	-	-	.03	.13	.03	.10	.15	.13	.23	-	-	-	-	.13	-	-	-	-	-	.03	-	-
4	-	-	-	-	.03	-	-	-	-	-	-	-	-	.05	-	-	.05	.05	-	-	.08	.08	.05	-
5	.05	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-
6	-	-	-	.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	>
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.10	.10	.15	.20	.28
11	.20	.03	.03	.03	.08	-	.03	.03	.03	-	-	-	-	-	.25	.46	.46	.03	.03	-	-	.05	-	-
12	-	-	.05	.05	.10	.15	.03	.05	.03	.05	.05	-	-	-	-	.05	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.23	.41	.15	.08	.08	.05	-	-
16	.03	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	.10	.08	.10	.08	.05	.05	-	.05	-	.05	-	-	-	-	.05	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.05	-
21	.10	.36	.46	.36	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	.03	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.05	.08	-	-	.30	.30	-
25	.10	.20	.10	.13	.18	.15	.23	.15	.03	-	.03	-	-	-	-	-	-	-	-	.05	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	.05	.03	.18	.18	-	.41	.13	.10	.10	.05	-	-	-	.05	-	-	-	-
29	-	-	-	.25	.10	.15	.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ITHACA

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.05	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	.08	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	.15	.18	.10	.18	.23	.18	.10	.05	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.15	.10	.13	.10	.23	-
7	-	-	-	-	-	.08	-	.05	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.10	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.30	.10	.13	.51	.30	.46	.05	.13	.13	.05
13	.03	.05	.15	.18	.13	.15	.15	.25	.30	.28	.25	.23	.10	.13	.10	.20	.03	.36	.18	.10	.15	.10	.13	.71
14	.56	.20	.10	.25	.30	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	<	.05	-	>	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	.08	.15	.33	.25	.20	.15	-	-	-	.05	-	.05	-	-	.15	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.10	.08	.05	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	.05	-	-	-	.08	-	.08	-	.13	.13	.08	.23	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	.05	.08	.03	-	-	-	-	-	-	-	-	.03	-	-	-	.13	.10	.20
11	.13	.03	-	-	-	-	-	-	.08	-	.03	-	-	-	-	-	-	-	-	-	-	-	.03	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-
15	-	-	-	-	.03	.05	.05	.15	.03	.05	-	.05	.05	.10	.10	.10	-	-	.03	-	-	-	-	.03
16	.08	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	.03	.08	-	.05	-	-	-	-	.03	-	.03	.10	-	-	-	-	.13	.10	.08	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.15	.10	.05	.03	.08	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	.05	-	.05	.13	.15	.23	.10	.15	.18	.05	.08	.13	.15
3	.08	.41	-	-	.46	.13	.05	-	-	-	-	-	.03	-	-	.03	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-
7	-	-	-	-	-	.03	.03	-	.03	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-
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12	.15	.13	.03	.08	.05	.08	-	-	-	-	-	.03	.03	.03	.05	.10	.08	.10	.05	.13	.23	.10	.18	.15
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.03	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP35 Precipitation Chemistry Network Rain Gauge Data

PENN STATE

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05
7	-	.30	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-
9	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	.20	.10	.08	.13	.15	.13	-	-	-	-	-	.03	.03	.03	.00	.05	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	-	.03	-	-	.03	-	-	-	-	-
19	-	-	.18	.53	.13	-	-	.15	.05	.38	-	.23	.33	.15	.05	.03	.03	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	.05	.03	.15	.15	.03	.03	.41	.41	.08	.66	.08	.03	.08	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	.03	.23	.33	.36	.20	.23	.18	.18	.51	.18	.33	.05	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.03	.05	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	.36	.53	.23	.61	.38	-	-	-	-	-	-	-	-	-	-	.05	.13	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.00	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.33	.05	.05	-	-	-	-	-	-	.03
8	-	.03	.05	-	-	-	-	-	-	-	-	-	-	.05	.05	.03	.05	-	.08	.03	.10	.10	.03	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.13	.20	-	-	-
10	-	.05	.05	-	.10	.05	.05	.03	.00	.15	.00	.10	.05	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.05	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	.00	-	.01	.10	.10	.03	.08	.05	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	.03	-	.03	.18	.08	.03	.28	.20	.08	.10	.10	.08	.03	.13	.23	.25	.28	.13	.03	-	.03	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.56	.61	.13
30	.08	.56	.36	.08	.15	.18	-	-	-	.03	T	.03	T	.08	-	-	-	-	-	.20	.56	.03	T	.71

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	.03	T	-	-	T	-	-	-	T	.56	.03	.43
2	-	-	-	-	-	-	-	-	-	-	-	.08	.30	.30	.38	.05	-	-	-	.03	-	-	-	-
3	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	T	.05	.00	.13	.05	.13	.05
4	.05	-	-	-	-	-	-	-	-	-	-	-	-	T	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	.03	.08	.03	.08	.08	.03	-	-	.00	.25	.03	.03	-	.05	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	.20	.30	-	-	.05	.23	.03	.03	.03	.05	T	-	-	-	.03	.03	.08	.13	-	-	T	.10	-
16	T	-	.13	-	-	-	-	-	-	T	T	-	-	-	-	-	-	-	-	T	.03	-	T	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.08	.13	.10	.08	.05	.15	.25	.05
20	.08	.13	.05	-	-	.25	.03	-	.03	.03	-	-	-	T	.03	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	.13	.53	.15	.10	.43	-	.13	.10	-	.03	1.12	.28	.03	-
23	-	-	-	.13	-	-	-	-	T	.08	T	.03	-	-	-	-	-	-	-	-	-	.10	.03	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	.03	-	-	-	-	.03	.03	.05	.20	.08	.08	-	-	.05	-	-	-	-	-	-	-	-	-	.13
30	.05	.03	-	.03	-	-	-	.03	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	.05	.10	-	.03	.15	.13	.03	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	T	.18	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.03	.05
4	.20	.30	.23	.18	.10	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-	-	.10	.13
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	.03	.03	T	.03	.05	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	.03	.05	.03	.05	.03	-	.03	-	-	-	-	1.60	.38	.08	.03	1.57	.05	.53	.05	.03	-	-
21	-	-	-	-	-	.03	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	1.19	.23	.08	.20	.08	.25	.15	.08	.03	.03	.58	1.00	.33	.15	.05
29	.05	.05	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	.03	-
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31	-	-	.10	.15	.03	.08	.03	.08	.10	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
ML - Missing, precipitation likely
MU - Missing, precipitation unlikely
< > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	T	.03	T	-	-	-	-	-	T	T	-	-	-	-	-	T	-	-	-	-	-	-	-	-
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MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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21	.25	.46	.28	.10	.03	T	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	T	-	-
24	.03	T	-	-	-	-	-	T	.03	.10	-	-	-	-	-	-	.08	.05	.03	-	-	-	.05	.10
25	.13	.18	.13	.10	.05	.13	.10	.10	.05	.03	.05	.03	T	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	T	.08	.15	.20	.13	.30	.18	.05	.03	.08	.18	.03	T	.03	.05	-	-	-	-
29	-	-	-	.10	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 MU - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

PENN STATE

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	T
3	.03	.13	.13	.08	.05	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	.03	.05	.05	.15	.08	.10	.25	.18	.13	.08	.05	.10	.08	.05	.03	.03	T	.03
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	.13	.20	-	T	-	.10	.61	.10	.15	.10	.51	.05
7	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	T	.05	-	.03	.20	.61	.23	.10	.33	.23	.08	.05	.03	-	-	-
13	-	-	T	.10	.13	.10	.18	.13	.10	.10	.15	.10	.23	.10	.13	.13	.13	.08	.08	.18	.15	.18	.28	.15
14	.08	.08	.05	.03	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	T	.05	.18	.15	.13	.41	.28	.13	.18	.10	.08	.03	.05	.03	.03	.05	.03	.08	.13	T	T	.05	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	.03	.05	.05	.08	-	-	-	-	-	T	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.10	.13	.15	.15	.20	.08	.05	-	-
29	-	-	.08	.05	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	.08	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	.10	-	.10	.05	-	-	.05	.10	.08	.08	.05	-	.18	-	-	.15	.08	.10	.05	-	-
11	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.08	.10	.20	.18	.10
23	.20	.20	.15	.08	.08	.08	.05	-	.05	-	.03	-	-	-	-	.03	.08	.13	.03	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	.03	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	.00	.05	.03	.10	.05	-	.03	.25	.20	.01	.61	.05	.28	.38	.56	.03	-	-
3	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.63	.28	.15	.05	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	ML	-	-	-	-	-	-	-	-	-	-	-	-	-
12	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	.03	.00	.03	.05	-	.05	.00	.00	.10	.00	.00	.03	.03	-	-	.03	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	.03	.03	.05	-	-	-	-	-	-	.25	.25	.00	.10	.10	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	.03	.08	.05	.05	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	.03	-	.03	-	-	-	-	.13	.03	.03	.08	.28	.15	.23	.15	.10
7	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-
8	-	.30	.46	.38	-	.05	.25	.46	.20	.03	-	.03	-	-	-	-	.03	.03	-	-	.48	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	.03	.03	.08	.36	.23	.36	.51	.15	.03	.10	.41	.23	.03	.18	.03	.05	.08	.20	.18	.23	-	.08
20	.61	.69	.74	.20	.30	.13	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	.15	.15	.41	.03	.03	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	.03	.05	.05	.05	.18	.36	.38	.36	.30	.84	.48	.13	-	-	-	-
28	-	-	.05	.30	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	.05	.03	.05	.05	-	.05	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.28	.20	.53	1.24	1.60
3	1.22	2.29	.33	.05	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	.03	-	-	-	-	-	-	.10	.43	.30	.15	.05	-	-	-	-	-	.03	-
8	-	.08	.05	.08	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.05	.10	.10	.05	-	.15	.05	.15	.38
10	.41	.71	.41	.25	.13	.33	.43	.36	1.02	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	.05
11	.15	-	-	-	-	.18	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	.10	.15	.23	.41	.38	.06	.61	.20	.13	.13	.05	.03	.10	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	.38	.36	.46	.58	.63	.33	.13	.25	.53	.46	.43	.33	.18	.15	.05	-	-	.03	.03	.03	.05	.10	.30	.23
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.23	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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15	.05	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	.06	1.50	-	.03	-	.05	-
16	-	-	-	-	-	-	-	.25	.10	.18	.20	.61	.69	.99	.71	.81	.51	.15	.10	.10	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	-	-	.05	.03	.08	.48	.25	.13	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	.03	-	.05	-	.58	-	.05	-	-	-	-	-	.05	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	.03	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	.03	.05	.05	.05	.15	.05	.03	.03	.03	.05	-	-	-	-	.03	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP35 Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
4	.08	.28	-	-	-	-	-	-	.03	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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18	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	.05	.99	.23	.08
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	1.57	-
21	-	.08	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.07	.05	.03	-	-
22	-	-	-	.08	.13	-	-	-	.03	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.84	.03	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	.08	.15	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.98	-	-	-	-
6	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	.08	.15	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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24	-	.10	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.99	1.57
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	-	-	-	-	-
6	-	1.63	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	.46	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.19	1.40	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.69	.03	-
12	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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18	-	-	-	-	-	-	-	.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.00	-	-	-	-	1.45	-	-	-	-
24	-	-	-	-	.03	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.32	.03	.03	.05	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	-	.05	-	.03	-	-
14	-	.03	.08	.03	.03	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	.03	-	.03	.03	.08	.03	.08	-	-	-	.30	.25	.13	-	.05	-
22	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-
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29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	.05	.20	.10	.71	.38	1.14	.30	.15	.03	-	-	-	.03	-	-	-	.10

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	-	-	-	-	-	-	-	.05	.20	.05	.10	.08	.08	.05	.20	.30	.13	.18	.05
12	.13	.13	.18	.30	.20	-	.25	.25	.10	.03	.08	.15	-	-	-	-	-	-	-	-	.05	.03	.03	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-	-	.50	.51	-	-	-
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21	.08	.10	.10	.18	.03	.10	.08	.08	.20	.20	.15	.05	-	.03	.03	-	-	.03	-	.03	-	-	.03	-
22	-	-	.03	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	.03	-	-	-	-	-
23	.10	.10	.08	.05	.08	.08	.08	-	.23	.18	.18	.10	.08	.15	.03	-	-	.18	.33	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	.03	.08	.05	.10	.05	.18	.23	.28	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	.18	.13	.05	.18	.10	-	-	-	-	-	.03	.03	.03	-
16	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	.05	.05	.08	.05	.03	-	-	.08	.03	.03	-	.08	.05	-	.03	.03	.03	.05	.08	.10
25	.13	.25	.10	.10	.08	.03	.10	.10	<	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	ML	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	>	.03	.08	.03	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP35 Precipitation Chemistry Network Rain Gauge Data

VIRGINIA

DEC 1983

Hourly precipitation amounts (cm)

	TIME (Z)																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.00	.05	.05
4	.03	.10	.10	.15	.25	.18	-	-	.30	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	.03	.00	-	-	-	.18	.13	.08	.03	.00	.05	-	-	.10	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	.15	.20	.13	.05	.00	.13	.36	.15	.20	.18	.13	.08	-	-	-	.10	-	.05	-	-	-
13	.03	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	-	-	-	-	-	-	-	-	-	-	-	.10	-	-	.03	.08	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
ML - Missing, precipitation likely
MU - Missing, precipitation unlikely
< > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	.10	.10	.08	.10	.15	.08	.05	-	.08	.13	.08	-	-	-	-	.03	.03	-	-	-	-	-	-	.08
23	-	-	-	-	-	-	-	-	-	-	.10	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	.05	.10	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP35 Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.05	.10	.05	.03	T	.10
2	.18	.23	.20	.13	.15	.20	.25	.08	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data
Hourly precipitation amounts (cm)

ILLINOIS

MAR 1983

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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6	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	T	.30	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	.03	T	.15	.13	-	-	.15	.33	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	.20	.03	.13	-	-	-	-	-	-	-	-	-	.03	.03	T	-	-	.03
28	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
ML - Missing, precipitation likely
MU - Missing, precipitation unlikely
< > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	T	.33	.51	.25	-	-	-	-	-	.10	.18	.23	.15	.13	-
2	.03	T	T	.05	.05	-	-	-	-	.13	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	.05	-	-	-	-	-	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	.08	.33	-	-	-	-	-	-	T	.03	-	.03	-	-
6	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T	.03	.18	.15	-	-
7	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13
9	.03	.03	.36	-	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	T	.03	-	-	-
10	-	-	.03	-	.08	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.03	-	.03	.05	-	.05
13	-	.84	T	-	-	-	-	-	-	-	-	-	.28	.30	.25	.28	.18	.03	.08	.30	.46	T	.03	.05
14	.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	.53	.33	.10	.08	.33	.05	-	-	-	-	-	-	-	-	-	-	-	-	.36	1.45	.97	.18	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	-	-
30	-	.05	1.17	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.18	.05	.05	.08	.05	T	-	-	-	-	-	.18	.66	2.36	.30	.51	-	-	-	.61	.03	T	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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6	-	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	.03	-	-	-	-	-	-	-	-	.10	.10	-	-	-	-	-	-	-	-	-
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19	-	.38	.05	1.37	.05	T	.03	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	.08	T	.08	T	T	-	-	-	-	-	-	-	-	-	.08	-	-	-	-	-	.15	.08	T	-
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26	.84	T	.20	.89	.36	T	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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4	-	-	-	-	-	.05	.28	.23	.13	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	.05	-	-	-	.58	2.39	.15	-	-	-	-	-	-	-	-	-	.48	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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4	-	-	-	-	-	-	-	.10	.15	.15	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	-	-	.08	.08	.36	.33	.86	.10	.05	T	-	-	-	.10	-	-	-	-	-	-	-	-	-
27	-	-	.28	-	.43	-	-	-	-	-	-	.61	-	-	-	-	-	-	-	-	-	.15	.18	.08
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (%)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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12	.51	.36	.03	-	.28	.74	.53	.08	-	-	-	-	.03	T	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.30	.10	.10	.10	.15	.15	.20	.20	.05	.13
20	.25	.25	.13	.15	.15	.10	.43	.41	.30	.25	.15	.10	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	T	.13	.18	.08	.05	-	.08	T	.13	1.47	1.57	1.27	.79	.25	.13	.03	.01	.25	.30	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.20	.33	.43	.15	.25	.08	.05	.03	.05	T
3	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	.10	.13	.43	.41	.15	.10	.15	.05	-	-	-	-	-	-	-	-	-	-	T	.05	.10	-	-	-
11	-	-	-	-	-	-	-	-	-	-	<	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T
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16	.05	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	.05	.13	.03	.20	.25	.30	.10	.03	.03	.05	.05	T
21	.05	-	-	.05	.15	.30	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	.03	.10	.46	.18	.25	.10	.18	.23	.25	.05	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	T	.05	.23	.30	.23	.10	.10	.05	.05	.76	.46	.30	.13	T	T	T	T	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

ILLINOIS

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	T	.03	.05	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.18	.18	.28	.18	.23	.18	T
4	-	-	.03	-	-	-	-	.05	.13	.08	T	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.23	T	.05	T	.03	.08	T	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	.03	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	<	-	T	-	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.10	.15	.25	.53	.48	.56	.38	.13
11	.05	.05	T	.03	T	.08	.03	T	-	.05	.13	.10	.23	.20	.03	-	-	-	-	.13	.05	T	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.13	.08
14	.05	.05	.03	.03	.05	.05	T	T	.03	.13	.25	.13	T	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	T	.03	.08	.15	.15	.10	.08	.13	.08	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	>	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP36 Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.00	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	.03	.05	-	-	.10	.18	.05	.03	.15	.13	.15	.20	.05	.05	.03	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	.51	.46	.20	.03	.05	.30	1.04	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	.03	.03	.03	.03	.05	.03	.03	.03	.05	.03	.03	.05	.00	.13	.20	.30	.06	.25	.74	.30	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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24	.10	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	.03	.20	.18	.33	.18	.46	.28	.25	.10
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
31	.30	.30	.23	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
3	.10	.10	-	-	.03	.18	.28	.20	1.02	.51	.30	.33	.05	-	-	-	-	-	-	-	-	-	-	-
4	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-
7	-	.03	-	-	-	.03	.03	.03	.03	.03	.05	.38	.38	.63	.33	.03	.03	.05	.03	.03	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.18	.13	.23	.18	.25
12	.20	.18	.13	.13	.15	.18	.18	.13	.15	.18	.18	.18	.20	.15	.20	.20	.10	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.25	.25	.25	.20	.10	.25	-
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22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.25	.08	.13	.03	.03	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.23	.23	.10	.10	.18
2	.08	.13	.13	.10	.13	.13	.13	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	.10	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	.05	.10	.30	.30	.28	.41	.08	.08	.05	.05	.03	.03	.03	.03	.03	.03	-	-	.03
8	.03	.05	.03	.03	.03	.03	.03	-	-	-	.03	.03	.03	.05	.13	.30	.30	.51	.25	.46	.36	.15	.10	.18
9	1.07	.20	.28	.05	.08	.03	.03	.05	.13	.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	.03	.03	-	-	-	-	-	.05	.18	.25	.23	.13	.13	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.10	.25	.30	-
12	.28	.30	.43	.23	-	-	-	-	-	.13	.30	.25	.20	.03	-	-	.03	.03	.03	-	-	.03	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	.05	.30	.25	.18	.08	.36	.18	.33
19	.41	.03	.03	.18	.15	.05	.81	.03	.03	.10	.03	-	-	-	-	.05	.28	.15	-	-	-	-	-	-
20	-	-	-	-	-	-	-	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.20	.79	.15	-	-	-	-	-	-
22	-	.05	.25	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.13	.15	.08
28	.13	.38	.33	.76	.76	.23	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	.05	.33	.20	.36	.30	.36	.74	.18	.05	.18	.18	.20	.13	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	.03	.03	.05	.03	.08	.03	-	.51	.05	.03	-	-	-	-	-	-	-	-	.05	-	-	.05	.13	.18
9	.13	.10	.08	.41	.48	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	.03	-	-	.41	.76	.38	.63	1.14	.58	.69	1.27	.63	.23	.36
11	.33	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.18	.30	.33	.51	.63	.63	.63	1.52	1.50
17	.86	.10	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	.08	.13	.18	.20	.25	.20	.13	.51	.41	.15	.05	-	-	-	-	.25	-	-	-
20	-	-	-	-	-	-	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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24	-	-	-	-	-	-	-	-	-	.13	.30	.08	.63	.51	1.19	.30	.03	.38	.10	.08	.10	.51	.05	.03
25	.05	.03	.05	-	.03	-	.03	-	-	.05	-	-	.03	.03	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	.13	.08	.20	.15	.46	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	.08	.25	.18	.10	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	.03	.18	.15	.46	.53	.33	.30	.13	.08	.18	.38	.20	.05	-
17	.05	.03	.10	.13	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	.13	.05	.08	-	.05	.10	.13	.20	.08	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	.05	.08	.13	.13	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.03	-
23	.03	-	-	-	.51	.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	.03	.03	.43	.18	.76	.63	.18	.05	.03	.03	.20	.08	.05	.03	.10	.03	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	.05	-	-	-	-	-	.23	.03	.03	.03	.03	.03	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	.05	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	.03	.03	.03	.03	.30	1.45	.05	.36	.13	.30	.03	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	.38	.05	.05	.18	1.14	.69	.08	.20	.33	.05
29	.13	.13	.15	.10	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.71	.99	.63
6	.18	.30	.13	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.08	.25	.18	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.20	-
22	.30	.30	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	.03	.03	.05	.25	1.12	.48	.18	.18	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.18	.15	-	-
2	-	-	-	-	-	-	.08	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.95
12	1.02	.89	.13	-	-	.25	.13	.13	-	.05	.03	.05	.51	.25	.05	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
29	.00	.13	.10	.13	.18	.05	.05	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.27	-	-	-	-	-	-	-	.05	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	.69	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-
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17	-	-	-	-	-	-	.03	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05
18	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	.13	.08	.30	.13	.76	.25	.58	.05	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	.03	.05	.15	.15	-	-	.10	.15	.03	.03	.08	-	-	.08	.03	.03	-	.46	.46

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.05	-	-	-	-	.05	.18	-	.05	-	-	-	-	.05	.08	.10	-	-	-	-	.05	.08	.03	.03
2	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	-	-	-	-	-	-	-	-	-	-
3	.15	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	.10	-	-	-	-	.05	.03	.08	.13	.20	.18	.23	.08	.03
13	.05	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.48	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	.03	.08	.15	.10	.13	.20	.23	.38	.20	.15	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.10	.10	.03
24	.08	.15	.10	.20	.20	.25	.56	.25	.50	.08	.05	.25	.63	1.02	.18	.08	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	.10	.48	-	-	.33	.61	.25	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.33	.51	.97	.86
11	.58	.33	-	.13	.10	-	-	-	-	-	-	-	-	-	-	-	.15	-	-	-	-	-	-	-
12	-	-	-	-	-	-	.05	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.38
16	.36	.38	.66	.53	1.17	.56	.38	.25	.30	.20	.20	.23	.18	.25	.05	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	.13	.25	.63	.08	.18	.08	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	.05	.25	.38
25	.76	.08	.05	.38	.51	1.14	.89	.38	.13	.03	.40	.38	.30	.25	.08	.23	.15	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.03	-	-	-	.15	.08	.05	.13
29	.05	.05	.03	.13	.03	.25	.05	.20	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

BROOKHAVEN

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	.03	.05	.05	.08	.18	.13	.08	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	.08	.05	.13	.38	.76	.51	.89	.38	.25	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.03	.53	.10	.03	.03	.03	.13	.13
7	-	-	-	.25	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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12	-	-	-	-	-	-	-	-	-	.10	.15	.08	.05	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.38
14	.36	.03	.03	.03	.03	.03	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	.10	.18	.13	.10	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	-	-	-	-	-	-	-	-	-	.05	.25	.18	.38	.38	.38	.38	.33	.69	.51	.38	.61	.05	.08	-
23	-	-	-	-	-	-	-	-	.03	-	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.15	.46	.46	.51	.25	.13	.38	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

LEWES

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-
6	-	<.28	>	<.20	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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10	-	-	-	-	-	.03	.13	.08	.05	.15	-	.05	-	-	-	-	-	-	.13	-	.03	-	.08	<
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23	-	.03	-	-	-	-	-	-	-	-	-	<.04	>	<.23	>	-	.03	.03	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

FEB 1983

Hourly precipitation amounts (cm)

	TIME (Z)																								
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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23	-	-	-	-	-	-	-	-	-	.05	.20	<.25	>	<.76	>	-	-	-	<.58	>	-	-	-	-	-
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28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP35 Precipitation Chemistry Network Rain Gauge Data

LEWES

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	.03	-	.05	.05	.03	.08	.03	.05	.10	.08	<	-	1.30	-	>	-	.03	-	<
2	.79	>	.03	.03	-	.03	.05	.03	<.03	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	<.53	>	-	-	-	-	-	-	.20	.20	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.25	.03
12	.10	<.08	>	.20	.05	.15	.05	-	-	.20	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<T	>
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18	-	-	-	-	-	-	-	<	.58	>	-	.05	.08	.10	-	.63	.38	-	.08	.28	-	-	.38	-
19	.15	.08	.05	-	-	.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	.03	.03	.20	.20	.46	-	-	-	-	-	-	-	.69	.28	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.08	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	.03	.13	.03	< 2.46	>	<.48	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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8	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	-	-	-
9	-	.13	.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	.08	-	.33	.58	-	-	-	-	.05	.36	< .84	>	.03	.56	.08	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	.30	.03	-	<.84	>	.03	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	-	-	-	<	5.69	>	1.27	-	1.27	.15	<.84	>	.08	.03	-	-	-	-	-	-	-	-
18	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	.20	.05	-	-	.05	.05	.05	<.05	>	.03	.05	.05	.05	.03	-	-	-	-	.03	-	.03	.03	.05
20	.10	-	-	-	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP36 Precipitation Chemistry Network Rain Gauge Data

LEWES

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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20	<	T	-	>	-	-	-	-	.03	.03	.00	.15	.18	.03	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.1	>	.08	1.04	.03	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.33	-	.18	-	.03	.05	-	.13	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	T	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	<	.79	>	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	.74	>	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP38 Precipitation Chemistry Network Rain Gauge Data

LEWES

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	.03	-	-	-	<.25	>	-	.03	-	-	-	.03	-	-	-	-	-	.03	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05
4	-	-	-	.10	-	-	-	.05	.03	-	-	-	.03	-	-	-	-	-	-	-	.03	-	-	-
5	.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<	T	>	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	.10	.10	.15	.05	<.05	>	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.51	.23	.23	-	<.30	>	.03	-
21	-	-	-	-	-	-	-	-	-	.06	-	-	.08	-	<	.61	>	-	.13	.33	1.73	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	.30	-	1.07	.03	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-	-	-	-	.56
6	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	<	-	1.78	-	>	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.66	.43	-	.53	-	-	-	-	-	-
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22	-	.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	<.13	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2.6	>	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	<	.61	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<.15	>	-	-	-	-	-	-	-
29	-	-	-	.05	.18	12.7	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-
30	-	<.15	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.28	5.08	.69	.25

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	2.54	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<.97	>	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.18	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	<.03	>	-	-	.03	-	<2.6	>	-	<
22	-	-	-	-	-	-	-	-	-	-	-	-	-	.66	-	-	-	-	-	-	-	-	-	-
23	>	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	.03	-	.03	1.22	.03	.03	.03	.08	-	.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	<	-	-	4.37	-	-	>	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	<	-	.41	-	>	-	-	-	-	-	-	-	-	-	-	<	-	.41	>	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	<	-	.03	>	.03	.13	.36	-	<.38	>	.30	.03	-	-	-	-	-	.20	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<.03	>	-	-	-	-	-	-	-	-
14	-	-	-	.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	.03	-	.03	.03	-	-	-	-	-	-	-	-	<.03	>	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	.05	<	-	-	-	-	1.42	-	-	-	-	-	>	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

LEWES

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	.15	<.50	>	<.13	>	-	-	.53	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	<	.13	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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16	1.68	>	.46	-	-	.08	.10	.10	.10	.10	-	-	-	-	-	-	-	-	<	-	.03	-	-	>
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	.08	.33	<1.6	>	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	1.80	-	-	<.66	>
25	-	.08	.51	-	-	.03	-	<1.2	>	.05	.33	.36	.15	.10	.03	.05	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP35 Precipitation Chemistry Network Rain Gauge Data

LEWES

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	.18	.76	.20	<	.97	>	.10	.15	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.13	.15	.08	-	-	-	-	-	-	-
7	.53	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	.08	-	-	.15	.23	.10	.48	-	.28	-	-	-	-	-	-	-	-	-	.03
13	-	.03	-	-	-	-	-	-	-	.46	-	.23	.53	.03	-	-	-	<	-	-	T	-	-	>
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	.13	.03	.10	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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22	-	-	-	-	.05	.08	.30	-	-	.33	<.76	>	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.08	.36	.05	.36	-	.36	.51	.05	.15	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	.03	-	-	.03	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.30	.36	.41	.25	.18	.20	.13	-
22	.23	.05	.03	-	.05	.05	.18	.15	.23	.15	.15	-	-	.03	-	.05	-	-	.03	.05	.08	-	-	-
23	-	-	-	-	-	-	-	-	.03	.03	-	-	-	.05	-	.03	-	-	-	-	-	.03	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	.03	-	-	-	.03	-	-	.03	.03	.10	.03	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.05	.18
2	.03	.03	.03	-	-	.13	.28	.03	-	.13	.28	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05
7	.05	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	.05	-	-	.03	.03	-	-	-	.03	-	.03	-	-	-	-	-	-	-	-
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24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	.25	.03	-	-	-	.10	.15	.05	-	-	-	-	-	-	-	-	.00	.23	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	.46	.30	.08	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.00	-	-	-
18	-	-	.13	.05	.00	-	-	-	.13	.00	-	.20	.05	.03	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	.05	.18	.30	.30	.20	.38	.46
21	.23	.05	.00	.00	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	.13	-	.05	.03	.05	-	-	-	-	-	-	-	-	-	-	-	-	.33	.41	-	-	-
28	-	-	.03	.03	-	.03	-	.03	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.33	.10	-
2	-	-	-	-	.05	.03	-	-	-	.25	.05	-	-	.15	.03	.18	.03	.10	-	-	-	-	-	-
3	-	-	.03	.03	-	-	.00	-	.05	.08	.05	.05	-	-	-	-	.03	.03	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	.03
6	.03	-	-	.03	.03	-	-	-	-	.03	-	.10	-	-	-	-	-	-	-	-	-	-	-	-
7	.03	-	-	-	.03	-	-	-	-	-	.03	-	.03	.15	.03	.08	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	.03	-	.03	.71	.43	.15	.23	.36	.28	.20	.13	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	.76	-	-	.05	-	.10	.05	.03	-	.08	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	-	-	.03
11	.15	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	.03	-	-	.08	.25	.23	.03	-	-	-	-	-	-	-	-	-	.03
14	.15	.10	.03	-	.03	.20	.18	.13	.10	.08	.10	.08	.03	-	-	-	.79	.36	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	1.12	.08	-	-	.08	.13	.38	.58	.33	.05	-	-	-	-	-	-	.25	.20	.74

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 NU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1.98	2.18	1.87	.56	.03	.08	-	.08	.05	-	.18	.81	.08	-	-	.03	.08	-	-	.20	-	-	-	-
2	-	.15	.56	-	.05	.03	.05	.56	.69	.03	-	-	-	-	-	.03	-	-	-	-	.05	-	-	-
3	-	.13	.30	.20	.23	.15	.13	.33	.36	.28	-	-	-	-	.20	.03	-	-	.03	-	-	.13	.08	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.05	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.25	.46	.25	.28
8	.05	.43	.05	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.03	.36	.08	.43	-	-
15	-	.05	-	-	-	-	-	-	-	.13	.13	.03	.03	.03	.03	.03	-	.41	.13	.15	.15	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	.05	-	.03	-	-	-	.05	-	.03	.10	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	.05	.89	.03	.66	.03	-	-	.10	-	.30	.05	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.20	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	.03	-	-	.03	-	-	-	-	-	-	-	-	.15	.03	.05	.05	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.36	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-
3	-	-	-	-	-	-	-	-	.05	-	-	-	.05	-	-	-	-	-	.03	.69	.15	-	-	.03
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.03	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.38	.46	.97	.03	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	.05	.05	.05	.03	-	.04	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	.03	.03	-	.28
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	.03	-	-	-	-	-	-	-	.38	.15	-	-	-	-	-	-	-	-	-	-	-	-	-
29	1.57	.05	.33	.38	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.69	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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6	-	-	-	-	-	-	-	-	-	-	-	-	.38	-	.13	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	<T	>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	1.90	.10	.20	.08	.25	.05	-	.08	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	.03	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	.08
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.76	.33	.05	-	-	-	-	-	-	-
5	-	-	-	-	-	.69	-	-	-	-	.58	.13	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	-	.36	.81	-
13	.08	.76	1.40	.25	.10	.15	.25	.38	.89	.51	.23	.23	.10	.05	.03	.03	.05	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	.63	.20	.23	.20	.13	.06	.13	.18	.13	.25	.51	.51	.23	.20	.20	.13
21	.25	.13	.10	.20	.05	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	.08	.05	.13	.13	.03	.15	.33	.20	.05	.20	.13	.03	-	-	.20	.03
23	.03	.03	-	-	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
ML - Missing, precipitation likely
MU - Missing, precipitation unlikely
< > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	.10	.15	.13	-	.05	-	-	-	.08	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	.05	.10	-	-	-	-	-	-
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11	.18	.08	.08	.05	.05	-	.58	.13	.38	.51	.51	.36	.15	-	-	-	.13	-	-	.08	.13	-	-	.08
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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15	-	-	-	-	-	-	-	-	-	-	.25	.13	.33	.08	.13	.25	.03	-	-	-	.03	.03	.03	.03
16	.10	.03	-	-	.03	.05	-	-	-	-	.05	-	-	-	.03	-	-	-	.03	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	.13	.08	-	.03	.03	.08	.43	.69	.05	.10	.13	.33	.05	.15	-	.03	-	.03	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OXFORD

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	.15	.30	-	.05	.33	.08	.05	.05	.05	-	-	-	-	-	-	-	.13	.58	-	-	-	-	.13	.08
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	.10	.03	.03	.10	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
8	.10	.05	-	-	-	.03	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	.20	.20	-	.05	.03	.05	-	.08	.08	-	-	-	-	-	.08	.28	.51	.20	-	.18	.18	.08	.08
12	-	-	-	-	.05	.03	.05	-	.08	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	.18	.03	.05	-	-	-	-	-	.10	.08	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	.03	.03	.03	-	-	-	-	-	.03	.03	.05	.08	.05	.05	.08	.05
22	.18	.08	.10	.13	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	-	-	.18	-	-	-	-	.18	.18	.08	.08	.13	.08	.18	.03	.03	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 HL - Missing, precipitation likely
 NU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

JAN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	.05	.13	.03	-	-	-	-	-	-	.03	.15	.05	-	.13	-	.15	.03
3	.03	-	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	.03	.08	.10	.10	.13	.15	.15	.13	.08	.15	.03	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	.05	.03	.05	.13	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.18	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	.10	.03	-	-	.15	.15	.03	-	-	-	-	-	.03	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

FEB 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.13
2	.25	.48	.43	.53	.89	1.07	.83	-	-	-	.43	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	.05	.15	.00	.18	.05	.18	.10	.33	.18	.10	.03	.05	.05	.03	.03	-	-	-	.03	-	.03	.05	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	.08	.13	.13	.13	.10	.13	.13	.15	.15	.15	.05	.18	.20	.13	.08	.18
11	.18	.10	.08	.05	.10	.13	.05	.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.43	.53	.30	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	.08	.20	.13	.03	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

MAR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	.10	.38	.23	.25	.33	.10	-	-	-	-	.15	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	.10	-	-	-	.03	.03	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	.03	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	.03	.23	.33	.15	.30	.33	.15
21	.05	.08	.25	.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.03	-
27	.05	.05	.05	.03	.05	-	-	.10	.23	.41	.25	.03	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	.05	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 NL - Missing, precipitation likely
 NU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

APR 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	.51	.15	.03	.33	-	-	-	.03	-	-	-	-	-	-	-	-	-	.03
3	-	.03	.03	.03	.03	-	-	-	-	-	-	-	-	.23	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	.03	.13	.40	.69	.63	.30	.30	.43	.48	.48	.48	.56	.56	.56	.56	.56	.56	.56
6	-	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	.15	.15	.05	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	.03	.08	.03	.03	-	-	-	.58	.58	.30	.30	.30	.56	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.08	.03	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03
15	-	-	-	-	-	.03	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	.18	.20	.15	.05	.10	.18	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	.05	.05	.03	-	-	.03	.03	.03	-	-	-	-
23	-	-	-	.03	.03	.03	-	-	.03	.08	-	-	-	-	.28	.30	.51	.38	.03	.03	.08	-	-	-
24	-	-	-	-	-	.05	-	-	-	-	-	.15	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 NU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

MAY 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	.03	.03	-	-	-	.10	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	.43	.61	.03	-	.08	.28	.05	.03	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	.10	.10	.36	.94	.25	.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	.03	.03	.05	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.25	1.02	.25	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.15	.56	.20	-	-	-	-	-	-
16	-	-	.03	.10	.03	.05	.03	.05	-	.18	.25	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	-	.13	.28	.38	.69	.51	.33	.23	-	-	-	-	-	-	-	.10	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.20	.28	.23	.20	.10	.10	-	.23
21	.58	.61	.13	.03	-	-	.56	.20	.38	.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	.13	.03	-	-	-	-	-	-	-	-	-	.00	.23	.23	.53	.38	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.00	.08	-	-	-	.10	.03	-	-
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DATA CODES:

T - Trace
 NL - Missing, precipitation likely
 NU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

JUN 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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4	-	-	-	.66	1.35	.53	.36	-	-	-	-	-	-	-	-	-	-	-	-	-	1.63	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	-	-	-	-	-	-
7	-	-	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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17	-	-	.13	.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.03	.03	.03
18	.03	.36	.03	.05	.10	.10	-	-	-	-	-	-	-	-	-	-	-	-	.05	.15	.03	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	-	-	-
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28	.08	.36	.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

JUL 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.74	-	-	-	-
5	-	-	-	-	-	-	-	-	.10	-	.13	.03	-	-	-	-	-	-	-	.23	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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19	-	-	-	-	-	.05	.10	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	.08	-	.05	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05	.15	.30	-	-
21	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	.08	-	-	-	-	-	-	.08	-	-	-	.05	.36	.36	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 NL - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

AUG 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.03	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.40	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	.13	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

SEP 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.08	.03	.03	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	.03	.03	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	.25	.15	-	-	-	-	-	-	-	.25	-	.03	.46	-
5	-	-	.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.12	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.23	-	-	-
21	.08	.13	.03	.13	.13	.38	-	.43	.15	-	-	-	-	.25	.25	.13	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

OCT 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	.03	.08	.30	1.45	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.13	.13	-	.03	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	.58	.58	-	-	.03	-	2.11	.58	.58	-	-	.10	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.10	-	.05	.03	.13	.03	.03	-	-
22	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	.05	.10	.03	.03	-	.03	-	.03	.03
23	-	.53	.10	.66	.99	.51	.38	.23	.05	.10	.13	.10	-	-	-	-	-	-	-	-	-	.05	.03	.03
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

NAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

NOV 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	.10	-	-	-	-	-	-	-	-	-	-	-	.15	.03	-	-	-
4	.05	.03	.03	-	.33	.58	.58	-	.03	.03	.05	.05	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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10	-	-	-	-	-	-	-	-	-	-	.08	-	-	-	-	.15	.15	.05	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	.03	.03	.03	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	.13	.97	.30	.20	.20	.20	-	-	-	.10	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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20	-	-	-	-	-	-	-	.05	-	.43	.43	.43	.08	-	-	-	-	-	.79	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.03	.43	.10	.08	.36
24	.20	.18	.25	.23	.41	.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.43	.15	.15	-	.79	.38	-	.05	.05	.05
28	.10	.05	.00	.05	.20	.25	.13	1.24	-	-	-	-	-	-	-	.03	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 ML - Missing, precipitation likely
 MU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

MAP3S Precipitation Chemistry Network Rain Gauge Data

OAK RIDGE

DEC 1983

Hourly precipitation amounts (cm)

DAY	TIME (Z)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	.25	.05	.05	.03	-	-	.25	.28	.10	.18	.33	.03	.03	-	.03	.05	.05	.05	.69	.05	.15	.30	.01	.33
4	-	-	.66	.28	.18	.05	.53	-	-	-	-	-	-	-	-	-	-	-	.05	-	-	-	.05	.74
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	.10	.03	-	-	-	-	1.14	-	.10	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.25	.76	.81	.33	.03	-	-	-	-	-
12	-	-	-	-	-	-	-	.25	-	-	-	.28	.13	-	-	-	-	-	-	-	-	-	-	-
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14	-	-	-	-	-	-	-	-	-	.25	-	-	-	.05	-	-	.05	.13	-	-	-	-	.08	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	.05	.13	.30	.08	-	-	.18	.20	.13	.25	.25	.03	-	-	.03	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.05
28	-	-	.05	.08	.08	.05	.13	.25	.18	.46	.51	.69	.23	.05	-	.30	.08	.08	.03	-	-	-	-	-
29	-	-	-	-	-	-	-	-	.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DATA CODES:

T - Trace
 NL - Missing, precipitation likely
 NU - Missing, precipitation unlikely
 < > - Amount spans a period greater than one hour

3.0 MAP3S PRECIPITATION CHEMISTRY NETWORK: HISTORY (1975-1983)^(a) AND BIBLIOGRAPHY

Several factors led to the U.S. Department of Energy (DOE), through the Multistate Atmospheric Power Production Pollution Study (MAP3S), taking a leading role in establishing a network to sample precipitation chemistry. Long-standing evidence from Europe and increasing evidence from the United States indicated that energy-related pollutants were causing important changes in precipitation chemistry, and that the ecological effects of such changes could become very important. Data in the northeastern United States, however, were too limited to permit establishment of definitive relationships between source emissions and deposition many hundreds of kilometers away. Further, despite growing interest among a number of university researchers, there was no focus for the creation of a network. MAP3S provided a rationale, a thrust, and necessary funding to get such a network started.

The overall objectives of the MAP3S program dictated several a priori requirements for the precipitation chemistry network to be operated as an integral part of the project. It was clear that precipitation event sampling would be required to support episode modeling. In addition, wet and dry deposition had to be separated in collected samples to allow evaluation of the two pollutant budget components. Rapid chemical analysis and reporting of results would be required for timely use of the data. Finally, with the early emphasis on sulfur compounds, it was desirable that the sampling methods attempt to allow evaluation of the previously largely unknown contribution of sulfur dioxide scavenging.

To promote effective operation of such a regional network, cooperation among researchers from DOE, National Oceanography and Atmospheric Administration (NOAA), Pacific Northwest Laboratory (PNL), and several independent research organizations was sought. These independent groups, particularly university groups, offered a wide range of research

(a) This work is an expanded and updated version of: Dana, T. and J. Hales, "Regional Precipitation Chemistry," in The Multistate Atmospheric Power Production Pollution Study - MAP3S, Progress Report for FY 1977 and FY 1978, ed. M. MacCracken, DOE/EV-0040, available from National Technical Information Service, Springfield, Virginia, pp. 96-101, 1979.

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experience, in addition to their capability to maintain sampling sites. Minor additions to and adjustment of the MAP3S network objectives were needed to achieve their participation, but by merging this broader range of interests and through governance of the network by a committee of network participants, greater benefits to the study of precipitation chemistry were achieved than might have followed from attempted fulfillment of the MAP3S objectives without such cooperation.

Initial development of the network was coordinated by the Air Resources Laboratory of NOAA. Their participation and precipitation collector development began in late 1975, preceding the formal start of MAP3S.

The involvement of cooperating site operators who were interested in the scientific findings for their own research purposes led to very careful (and necessary) operational practices. The responsibility of PNL during this period involved mainly collector design and construction. A study of existing automatic precipitation samplers at the NOAA-sponsored test facility at Cornell University indicate that the HASL sampler was the best of existing samplers. For MAP3S, PNL modified the HASL approach so as to reduce the possibility for loss of volatile species. The design that was selected was the primary topic of business at the first network participants' meeting in February 1976. This meeting set the cooperative tone for collective decision-making among NOAA, DOE, PNL and network site operators that has continued through the years of network operation. As a result of this meeting, certain changes to the original collector design were called for, and basic procedural details for sampling were established. The first four network sites (see Tables 6 and 7 and Figure 1) were also chosen at about this time.

A second meeting was held at Pennsylvania State University in July 1976, where the completed Battelle collector was displayed, and sampling, analysis, and reporting methods were determined. Because of concern about the largely untested nature of the Battelle collector and the efficiency of in-field deionized water rinse of the collector's funnel, two special studies were set up to accompany the initial period of sampling. First, the Environmental Measurements Laboratory (EML) provided the proven HASL

TABLE 6. Network Site Identification and Participating Organizations

<u>Site Number</u>	<u>Site Name</u>	<u>Participating Organization</u>
1	Whiteface	Atmospheric Sciences Research Center, State University of New York at Albany
2	Ithaca	Section of Ecology and Systematics, Cornell University
3	Penn State	Department of Meteorology, Pennsylvania State University
4	Virginia	Department of Environmental Sciences, University of Virginia
5	Illinois	Illinois State Water Survey Champaign, Illinois
6	Brookhaven	Atmospheric Sciences Division Brookhaven National Laboratory
7	Lewes	College of Marine Studies, University of Delaware
8	Oxford	Institute of Environmental Sciences, Miami University
9	Oak Ridge	Oak Ridge National Laboratory

TABLE 7. Network Site Details

<u>Site No.</u>	<u>Name</u>	<u>Location</u>		<u>Elevation (m, msl)</u>	<u>Date of First Sample Collected</u>
		<u>Longitude</u>	<u>Latitude</u>		
1	Whiteface	73° 51'	44° 23'	604	October 11, 1976
2	Ithaca	76° 43'	42° 23'	503	October 26, 1976
3	Penn State	77° 57'	40° 47'	396	September 22, 1976
4	Virginia	78° 32'	38° 2'	171	December 12, 1976
5	Illinois	88° 22'	40° 3'	213	November 20, 1977
6	Brookhaven	72° 53'	40° 52'	24	February 9, 1978
7	Lewes	75° 0'	38° 46'	0	March 1, 1978
8	Oxford	84° 44'	39° 32'	283	October 1, 1978
9	Oak Ridge	84° 17'	35° 58'	330	January 7, 1981

FIGURE 1. Location of MAP3S/PCN Sites

collectors for backup and comparison purposes. Secondly, one network site was outfitted with a second Battelle collector whose funnel would be acid washed between events for comparison with the sampler using a deionized water rinse. Sample collection began during the fall of 1976 at the first four sites and the first monthly printout of pollutant concentrations was issued in January 1977.

Meanwhile, development of a collected sample freezing mechanism for the Battelle collector proceeded. Upon discovery (through laboratory experimentation) that freezing of the sample was of no advantage over cooling to refrigerator temperature for preservation of at least sulfite ion, the effort was transferred to refrigerator development. It was also found that chemical fixing of sulfite ion would be required, in addition to the cooling.

With most sampling procedures firmly established, the main topic of the third meeting in February 1977 was selection of additional sites. A number of prospective site operators made presentations during this meeting. Among the sites considered were Upton (Brookhaven), New York; Champaign, Illinois; and Lewes, Delaware. These three sites were selected by consensus of meeting participants for network expansion. Prospective operators for a fourth additional site in Ohio were contacted subsequent to this meeting. A fifth additional site was established at Oak Ridge.

The meeting at Whiteface Mountain, New York, in September 1977, featured the start of cooperation among the major precipitation chemistry networks of North America. Representatives of the Canada Atmospheric Environment Service CANSAP network, the U.S. Department of Agriculture NC-141 network (since renamed the National Atmospheric Deposition Program [NADP]), and the Electric Power Research Institute SURE network were present. The first concerted effort among these programs, through the auspices of MAP3S, was the establishment of a collector comparison study to be located at the Pennsylvania State University site. The three types of collectors used by these networks were compared on an event sampling basis for a one year period, sufficient to establish good statistical analyses of collector performance. This meeting also saw the establishment of an

external laboratory quality control program for the MAP3S network, which began operation early in 1978 under the supervision of the DOE's EML.

The fifth meeting of network participants at Ithaca, New York, in May 1978 consisted mainly of more formal reports from the site operators and the MAP3S modeling community, describing present and prospective uses of the MAP3S precipitation chemistry data.

About this time, the HASL collectors at several sites, previously employed for comparison with the Battelle collector for event sampling, were reactivated, collecting weekly samples on the same schedule as the NADP network. This study was conducted for over one year and provided a data base for weekly/event sample comparisons. Although the samples were collected by precipitation samplers of different types, these collectors had been favorably compared for event samples during the early months of network operation.

A participants meeting was held at Lewes, Delaware, in June 1979. This meeting included presentations on data use by participants and invited speakers. Preliminary results of the nine-collector comparisons study were included.

It was decided at this time to convert the network collector equipment entirely over to the HASL or the commercial version Aero Chem Metrics (ACM). The special features of the Battelle collectors--refrigeration and protection of volatile species--had been shown by the various comparison studies to be of not sufficient extra value to warrant continued use and upkeep of the, by then, well-worn Battelle collectors. Furthermore, the HASL type had become a "standard" collector, through its use by the now rapidly expanding NADP and state and utility networks. The conversion to HASL-type collectors proceeded gradually (as funds became available for purchase), beginning in the fall of 1979 and concluding in April 1981.

In December 1979 the weekly sampling ended, as the original HASL collectors were assigned to regular event sampling. At that time, the EML-maintained external QA system ended.

A core-group participants' meeting was held in May 1980 at Dulles Airport. It was decided at this meeting that hourly precipitation amounts would be recorded and reported in addition to the chemistry data. This procedure was instituted at most sites during the summer of 1980. At that time, the external QA system was taken over by the U.S. Geological Survey (USGS), which also provides the same service for the NADP.

Early in 1981, plans were made for the network's participation in the Oxidation and Scavenging Characteristics of April Rains (OSCAR) experiment. Each site organization conducted sequential sampling during three events in April, at the Precipitation Chemistry Network site, and also at additional sites, making a denser network of about 36 sites. The some 4,000 precipitation samples, collected from this intermediate density network and from the OSCAR high-density network in Ohio and Indiana were analyzed by the PNL central laboratory over the next 15-month period. The results from OSCAR have been reported in an overview volume⁽¹⁰⁾, and several data reports will be available in 1984.^(a, b)

In October 1982, the MAP3S coordination and central laboratory functions were transferred formally to EPA sponsorship. This meant the end of the MAP3S and subsequently MAP3S/RAINE projects. However, the network continued to carry the name "MAP3S Precipitation Chemistry Network" for recognition and continuity of identification. Most network sites continued to be funded by DOE.

Late in 1982, the bimonthly hard-copy data reports (which had changed from monthly in February 1980) began to include the hourly precipitation data amount. Soon after, the bimonthly reports began to constitute 2-months' inclusive data, rather than the previous 2 months of laboratory analyses regardless of sample date.

(a) Dana, M. T., R. C. Easter and J. M. Thorp. High Density Network Data Report for OSCAR Experiment Event 4 (April 21-23, 1981), PNL-5152, Pacific Northwest Laboratory, Richland, Washington. (In press).

(b) Dana, M. T., R. C. Easter and J. M. Thorp. High Density Network Data Report for OSCAR Experiment Event 2 (April 13, 1981), Pacific Northwest Laboratory, Richland, Washington. (In review).

In November 1983, concurrent with the annual NADP meeting in Knoxville, Tennessee, the MAP3S/PCN participants met to discuss plans for upgrading the network. Among the expected developments were the addition of air chemistry measurements, coordination with the Canadian Air Precipitation Network (APN), and an attempt at consolidation of project sponsorship.

The network history is listed in brief in Table 8, and Table 9 lists the periodic summary reports issued by MAP3S/PCN. Table 10 summarizes the collector type and area record for each MAP3S/PCN site. Table 11 summarizes a list of the chemical species and analysis details.

A bibliography of publications that have included the use of MAP3S/PCN data completes this section.

TABLE 8. MAP3S/PCN History in Brief

<u>Date</u>	<u>Event</u>
August 1975	Collector survey/initial NOAA coordination
February 1976	Prototype Battelle collector developed/first network participants' meeting, Silver Spring, Maryland
April 1976	Site survey
July 1976	Participants' meeting, State College, Pennsylvania
August 1976	Installation of Battelle collectors at first four sites
September 1976	Site 3 (Penn State) in operation
October 1976	Sites 1 (Whiteface) and 2 (Ithaca) in operation
December 1976	Site 4 (Virginia) in operation
January 1977	First monthly data report issued
February 1977	Participants' meeting, Charlottesville, Virginia
March 1977	Analyses of all PNL funnel rinses end
August 1977	Analyses of all HASL event samples end/beginning of TCM-fixing for sulfite analysis
September 1977	Participants' meeting, Whiteface Mountain, New York
October 1977	First periodic summary report issued
November 1977	Site 5 (Illinois) in operation
January 1978	Start of EML external QA program
February 1978	Sites 6 (Brookhaven) and 7 (Lewes) in operation
May 1978	Participants' meeting, Ithaca, New York/nine collector comparison study begins at Penn State
June 1978	Weekly sampling (with full chemical analysis) with HASL collectors begins at five sites (1, 2, 3, 4, 7)
October 1978	Site 8 (Oxford, Ohio) in operation

TABLE 8. Continued

<u>Date</u>	<u>Event</u>
May 1979	End of nine collector comparison study at Penn State (1 year) start of regular weekly-event comparisons at Penn State
June 1979	Participants' meeting, Lewes, Delaware
November 1979	Beginning of conversion of Battelle to HASL/ACM collectors
December 1979	End of weekly sampling at all sites but Penn State. End of EML external QA program
February 1980	Monthly data reports changed to bimonthly
May 1980	Participants' meeting, Dulles Airport, Virginia
June 1980	Start of USGS external QA program. Start of recording of hourly precipitation amount
October 1980	QA/QC report issued
January 1981	Site 9 in operation
February 1981	Participants' meeting and OSCAR planning meeting, Dulles Airport, VA
March 1981	End of 2-month preliminary study of trace metal concentrations in MAP3S samples collected at Oak Ridge
April 1981	OSCAR experiment; basic and intermediate networks collect sequential samples during three storms; laboratory analysis begins
July 1981	Beginning 3-year informal study of SO ₂ concentrations of throughfall from a forest canopy at Oak Ridge
June 1982	OSCAR laboratory analysis completed
October 1982	MAP3S funding formally transferred to EPA; name of network retained for continuity and recognition
December 1982	Hourly precipitation reporting in bimonthlies began
April 1983	Bimonthly reports begin including two complete months data
November 1983	Participants' meeting, Knoxville, Tennessee

TABLE 9. MAP3S/PCN Periodic Summary Reports

<u>Number</u>	<u>Published Date</u>	<u>Data Period^(a)</u>	<u>Additional Contents</u>
1	Oct 1977	Sept 1976-June 1977	Procedures; Battelle funnel rinse analyses; Battelle- HASL comparisons
2	Jan 1979	July 1977-June 1978	Nitrite ion stability
3	May 1980	July 1978-Dec 1979	Weekly/event comparisons; monthly and seasonal averages; EML external QA
4	Dec 1981	1980	Statistical summary; monthly averages; USGS external QA
5	Feb 1983	1981	Statistical summary, monthly averages, USGS external QA; hourly precipitation
6	July 1983	1982	USGS external QA; labora- tory exchanges; chemical stability; site audits; hourly precipitation
7	Aug 1984	1983	USGS external QA; laboratory exchanges; analysis comparisons; a statistical survey of 1982/1983 data; laboratory precision and accuracy study; site audits; hourly precipitation

^(a) Inclusive period for which full chemical data are presented.

TABLE 10. MAP3S/PCN Collector Type and Area
Record Through December 1983

Site Number	Site	Collector Type	Time Span ^(a)	Collector Area, (cm ²)	Time Span ^(a)
1	Whiteface	BNW ^(b) HASL ^(c)	10/11/76-12/9/79 12/10/79-12/83	490 640	10/11/76-12/9/79 12/10/79-12/83
2	Ithaca	BNW HASL	10/26/76-11/19/79 11/20/79-12/83	490 640	10/26/76-11/19/79 11/20/79-12/83
3	Penn State	BNW HASL ^(d) ACM	9/22/76-12/18/79 12/19/79-2/28/81 3/1/81-12/83	490 640	9/22/76-12/18/79 12/19/79-12/83
4	Virginia	BNW ACM	12/12/76-3/31/81 4/1/81-12/83	490 640	12/12/76-3/31/81 4/1/81-12/83
5	Illinois	BNW HASL ACM	11/20/77-2/15/80 2/16/80-1/4/82 1/5/82-12/83	490 325 640	11/20/77-2/15/80 2/16/80-1/4/82 1/5/82-12/83
6	Brookhaven	BNW ACM	2/9/78-2/23/81 2/24/81-12/83	490 640	2/9/78-2/23/81 2/24/81-12/83
7	Lewes	BNW ACM	3/1/78-11/9/80 11/10/80-12/83	490 640	3/1/78-11/9/80 11/10/80-12/83
8	Oxford	BNW ACM	10/1/78-11/23/80 11/24/80-12/83	490 640	10/1/78-11/23/80 11/24/80-12/83
9	Oak Ridge ^(e)	ACM	1/7/81-12/83	640	1/7/81-12/83

(a) Date may be between sample dates

(b) "Battelle Northwest" - BNW

(c) H1

(d) ACM 301-A2

(e) Entire record for Oak Ridge has same collector and area

TABLE 11. Chemical Species and Analysis Details

Species	Method ^(a)	Instrument	Minimum Detection Limit ($\mu\text{mol/L}$)	Quantitative Detection Limit ($\mu\text{mol/L}$) ^(b)	Estimated Error ^(c)
H^+ (free)	Electrode	Corning Model 135 pH/Ion Meter	--	--	± 0.05 pH units ^(d)
Conductivity	Bridge	Markson Electro- mark ®	1.2	--	$\pm 20\%$
SO_3^-	AWC	Technicon ® Auto Analyzer ®	0.1	0.2	± 60 (QDL or 10%)
SO_4^-	IC	Dionex ™ System 10 (Anion)	0.03	0.2	± 60 (QDL or 10%)
NO_2^-	AWC	Technicon ® Auto Analyzer ®	0.05	0.1	± 60 (QDL or 10%)
NO_3^-	IC	Dionex ™ System 10 (Anion)	0.05	0.2	± 60 (QDL or 10%)
Cl^-	IC	Dionex ™ System 10 (Anion)	0.5	2.0	± 60 (QDL or 10%)
PO_4^{3-}	IC	Dionex ™ System 10 (Anion)	0.05	0.2	± 60 (QDL or 10%)
NH_4^+	IC	Dionex ™ System 10 (Cation)	0.1	0.5	± 60 (QDL or 10%)
Na^+	IC	Dionex ™ System 10 (Cation)	0.1	0.4	± 60 (QDL or 10%)
K^+	IC	Dionex ™ System 10 (Cation)	0.2	0.5	± 60 (QDL or 10%)

Table 11. Continued

Species	Method ^(a)	Instrument	Minimum Detection Limit ($\mu\text{mol/L}$)	Quantitative Detection Limit ($\mu\text{mol/L}$) ^(b)	Estimated Error ^(c)
Ca^{++}	AA (1/83-11/83)	Perkin-Elmer 306	0.2	0.5	$\pm\text{GO}(\text{QDL or } 10\%)$
	ICP (11/83-12/83)	Leeman Labs Plasma-Spec®. ICP 2.5	0.05	0.2	$\pm\text{GO}(\text{QDL or } 10\%)$
Mg^{++}	AA (1/83-11/83)	Perkin-Elmer 306	0.1	0.4	$\pm\text{GO}(\text{QDL or } 10\%)$
	ICP (11/83-12/83)	Leeman Labs Plasma-Spec®. ICP 2.5	0.08	0.2	$\pm\text{GO}(\text{QDL or } 10\%)$

(a) AWC = Automated Wet Chemistry; IC = Ion Chromatography; AA = Atomic Absorption Spectrophotometry; ICP = Inductively Coupled Plasma

(b) Best Obtained--Some analysis sessions result in higher maximum detection limits. These are noted, where relevant, in the Appendix.

(c) QDL = Quantitative detection limit; GO = "Greater Of."

(d) At pH = 4.

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4.0 QUALITY CONTROL

4.1 RESULTS OF USGS/MAP3S BLIND AUDIT PROGRAM

Summaries of 1980, 1981, and 1982 USGS/MAP3S blind audit program are reported in the MAP3S Precipitation Chemistry Network: Fourth, Fifth, and Sixth Periodic Summary Reports, respectively.^(4, 5, 6) Thirty-one simulated precipitation samples were used for the 1983 data analysis. All analytical results that are reported as "less than" by either the laboratory or the USGS are deleted from the blind-audit data set. All analytical results from a sample that was determined to be contaminated are not reported. Ammonium, nitrite, and sulfur dioxide are not present in the audit samples at time of preparation; therefore, these species are not included in the data analysis.

Nitrate and phosphate do not appear to be always stable during the entire submission train. Nitrate is usually and phosphate is always reported at concentrations lower than the USGS recommended concentrations. Simulated precipitation samples are not chilled during sample submission to the laboratory. This small data-subset indicates that calcium, magnesium, and probably sulfate show a bias between the laboratory and the USGS reported values. It should be noted that all laboratory data includes possible effects of field handling and processing of the simulated precipitation samples.

Graphical representation of the laboratory analysis verses the USGS reported values are shown in Figures 2-9. All stable chemical parameters (Ca^{2+} , Mg^{2+} , K^+ , Na^+ , Cl^- , and SO_4^{2-}) have correlation coefficients (R) indicating that the laboratory and USGS reported values have a commonality of greater than 90 percent. The two unstable chemical parameters (NO_3^- and PO_4^{3-}) have much lower R values than the stable parameters, indicating that NO_3^- and PO_4^{3-} are being lost from sample preparation and laboratory analysis.

Since commonality is shown for Ca^{2+} , Mg^{2+} , K^+ , Na^+ , Cl^- , and SO_4^{2-} , a least square equation can be generated to describe the audit

FIGURE 2. MAP3S Laboratory Determination of Cl^- Versus USGS Most Probable Value of Cl^-

FIGURE 3. MAP3S Laboratory Determination of NO_3^- Versus USGS Most Probable Value of NO_3^- .

FIGURE 4. MAP3S Laboratory Determination of SO_4^{2-} Versus USGS Most Probable Value of SO_4^{2-} .

FIGURE 5. MAP3S Laboratory Determination of PO_4^{3-} Versus USGS Most Probable PO_4^{3-} .

FIGURE 6. MAP3S Laboratory Determination of Na^+ Versus USGS Most Probable Value of Na^+ .

FIGURE 6. MAP3S Laboratory Determination of Na^+ Versus USGS Most Probable Value of Na^+ .

FIGURE 7. MAP3S Determination of K⁺ Versus USGS Most Probable Value of K⁺.

FIGURE 8. MAP3S Laboratory Determination of Mg^{2+} Versus USGS Most Probable Value of Mg^{2+} .

FIGURE 9. MAP3S Laboratory Determination of Ca^{2+} Versus USGS Most Probable Value of Ca^{2+} .

data from the MAP3S network. The form of the equation would be

$$P = SX + I \quad (1)$$

where P = parameter concentration measured by the laboratory

S = slope

X = chemical parameter concentration as reported by the USGS

I = intercept.

This least-square equation includes variability caused by USGS and site-operator handling, storage container, sample shipping, and laboratory analysis. Therefore, it is not a valid estimate of only laboratory accuracy; but, rather, an estimate of the accuracy of the entire submission train and laboratory analysis.

4.2 INTRALABORATORY COMPARISONS

During 1983 there were several changes in the analytical methods used at PCL. Analysis of NH_4^+ was changed from ion chromatography (IC) to automated wet chemistry (AWC) and Ca^{2+} and Mg^{2+} analysis from atomic absorption (AA) to plasma emission (PES). The following is a summary of the comparison of analysis methods.

Four sets of samples from MAP3S/PCN were analyzed for NH_4^+ by both AWC and IC methods. Table 12 lists the characteristics of the sets. The sets are divided according to date of AWC analysis so that each set represents (presumably) different accuracy and precision conditions for AWC. The IC analysis dates are reasonably restricted for each set. Note that the two methods' analyses were contemporaneous, except for Set 4, when the separation was almost two months.

Table 13 lists elementary statistics and parameters of the linear fits. Note that a wide range of concentration values is represented, but the season was restricted to mid-summer through mid-fall. Another comparison for spring time samples may be advisable.

TABLE 12. Comparison Sets for NH_4^+

Set	PC Groups	Analysis Date (1983)		Sites	Sample Dates Range
		AWC	IC		
1	267	9/27	9/13, 14	2, 4, 6, 7, 8	8/6/83-9/1/83
2	266, 268A	9/28	9/12, 13, 22	2, 3, 5, 9	8/5/83-10/3/83
3	271-273	11/22	10/31-11/22	ALL	9/7/83 ^(a) -11/7/83
4	268B, 269	12/1	10/6, 7, 11	2, 3, 6, 7	8/31/83-10/3/83

(a) One July sample from PNL also included.

TABLE 13. Comparison Results for NH_4^+

Set	AWC		IC		AWC = A+B(IC)			N
	$\bar{C}$ (a)	σ (b)	$\bar{C}$	σ (b)	A	B	r^2	
1	36	22	37	23	0.68	0.955	0.983	18
2	38	23	38	23	-0.39	0.995	0.988	30
3	15	19	15	19	-0.04	1.003	0.993	51
4 (c)	14	20	± 5	20	-1.03 ^(d)	0.994	0.980	20

(a) Mean concentration

(b) Standard deviation

(c) Three outliers not included.

(d) Large intercept results from assuming an intercept on the calibration equation (e.g., $C = A - B_{\text{pnt}}$, instead of $C = B_{\text{pnt}}$). Fixing A at zero would result in a lower intercept and better comparison for low values of C, but not significantly different slope.

The results are good, but there are three outliers in Set 4 (not included in statistics) that showed an apparent sharp decrease in NH_4^+ over the two-month period. This decrease was confirmed through reanalysis by IC. Further work, investigating the reasons for this decrease, are under way and will be reported in the summary for 1984.

Accuracy is expressed as the coefficient of determination γ (ratio of standard deviation to the mean) in percent, resulting from

several (about 10 each session) determinations of b from known standards. The average γ for each of the three standards (13.8, 27.6 and 55.2 $\mu\text{mol/L}$) is generally about 5% under the best conditions. A value of $\gamma > 10\%$ would violate laboratory quality requirements and necessitate redoing the analyses.

Precision is the characterization of the error associated with repeated analyses of the same sample. This was evaluated by running three samples ($C=1, 10$, and $40 \mu\text{mol/L}$) ten times each. Six runs were in ascending order of concentration (adjacent sample cups) and four in descending order. Table 14 shows the results of this experiment. Clearly, a higher concentration is indicated for peaks following higher peaks; this should be accounted for by running groups of standards in both ascending and descending order. Figure 10 illustrates possible treatment of the error associated with this method. The three data points (showing ± 1 standard deviation and extremes) from Table 14 are plotted, and the best-fit power-law relation drawn. The accuracy, which is determined for $6.9 \leq C \leq 55.2 \mu\text{mol/L}$ only, is conservatively at 5%, and this error should ideally follow the precision curve. Our current, conservative, general laboratory error statement, $\pm 10\%$ or MDL (minimum detection limit), whichever is greater, is shown merging with the accuracy line. Thus, the laboratory error statement for NH_4^+ could be amended to include $\pm 5\%$ for $C \geq 10 \mu\text{mol/L}$, if one wished, and still be conservative.

A less exhaustive study of the Ca^{2+} and Mg^{2+} analyses on the AA versus PES also shows excellent results. Even though the statistics shown are conservative, it is evident that the two methods, AA and PES, give comparable analytical results.

There is a time difference of 2 to 8 months between the analyses on the two instruments. These statistical results, therefore, include sample stability over time and changes in standard preparation as well as different instrument effects.

Table 15 lists the linear regression analyses of both Mg^{+2} and Ca^{+2} . The form

$$\text{PES} = m(\text{AA}) + b \quad (2)$$

FIGURE 10. Error Determination for AWC NH_4^+ Method

TABLE 14. Precision Results for NH_4^+

Sample	N	C	σ	$\gamma=\sigma/c, (\%)$	Extremes
ASCENDING					
A	6	1.2	0.20	17	0.86-1.4
B	6	9.1	0.23	2	8.8-9.3
C	6	41.0	0.63	2	40-42
DESCENDING					
C	4	42.0	0.82	2	41-43
B	4	9.5	0.40	4	9.1-10
A	4	1.5	0.26	17	1.3-1.8
BOTH					
A	10	1.3	0.28	21	0.86-1.8
B	10	9.3	0.37	4	8.8-10
C	10	41.0	0.84	2	40-43

TABLE 15. Linear Regression Analysis for Ca^{2+} and Mg^{2+}

Element	Range ($\mu\text{mol/L}$)	m	b	r	r^2	n
Ca^{2+}	0-5 ^(a)	0.926	-0.055	0.944	0.890	81
	0.2-5 ^(b)	0.943	-0.099	0.930	0.865	71
	5-10	1.04	-0.505	0.912	0.831	19
	>10 ^(b)	1.03	-0.148	0.999	0.998	14
	total ^(b)	1.03	-0.305	0.999	0.998	104
	total ^(a)	1.03	-0.273	0.999	0.998	114
Mg^{2+}	0-1 ^(a)	1.01	-0.026	0.962	0.926	73
	0.2-1 ^(b)	1.10	-0.082	0.938	0.881	49
	1-5	0.985	-0.074	0.990	0.980	27
	>5 ^(b)	1.02	-0.265	0.995	0.990	15
	total ^(b)	1.01	-0.073	0.998	0.997	91
	total ^(a)	1.01	-0.058	0.998	0.997	115

(a) Points with both analysis values reported as below detectable limits included in statistical calculations as half the QDL; points with one value below detectable limits included in calculations with actual data point and half QDL. Example: PES = <0.2 and AA = <0.2 entered as (0.1, 0.1); PES = 0.25 and AA = <0.2 entered as (0.25, 0.1).

(b) Points reported as below detectable limit for either analysis omitted from statistical calculations.

was used for the statistical calculations. Both Ca^{2+} and Mg^{2+} in the lower concentration ranges show a bias. The concentrations in the lower ranges, however, are near or at the quantitative detection limit (QDL). The error in the concentration values, therefore, is higher regardless of analysis method.

The MAP3S Precipitation Chemistry Laboratory routinely reanalyzes samples. Reanalysis of a given sample may occur because of analytical necessity (off-scale readings, poor baseline or species resolution, poor sample ion balance, etc.) or as part of the laboratory's internal quality control program. Samples under the latter category are randomly selected for complete reanalysis. Reanalysis for one species because of analytical necessity will cause a full slate of duplicate results for the remaining species when multi-element or -ion techniques, such as ion chromatography (IC) or inductively coupled plasma emission (ICP), are involved. Such duplicate analysis results can be used as a measure of the laboratory's measurement precision.

Duplicate analysis results for a small subset of samples analyzed in the PCL during calendar year 1983 were examined statistically to determine if the laboratory was meeting its stated precision goal of the greater of $\pm 10\%$ or the minimum detection limit. This study and precision estimates were a natural outgrowth of the data set formed. Since the data subset included samples reanalyzed under both purposes described above and included the full range of species concentrations normally seen in the laboratory without any selective inclusions or omissions, the statistical examination is believed to be a good approximation of the precision of the laboratory as a whole.

Variations in observations for each species in the duplicate analysis data set were expressed as a relative percent difference, where

$$\text{Relative Percent Difference} = 100 \times \frac{x_1 - x_2}{(x_1 + x_2)/2} \quad (3)$$

Table 16 lists the mean relative percent difference and standard deviation for the major precipitation chemistry ions when all samples in

TABLE 16. Mean Relative Differences for Duplicate Analysis Data:
All Results Above Detection Limits Included

Analyte	Mean Relative Difference (%)	Standard Deviation (%)	Number of Samples in Analysis
Sulfur	1.3	14.	38
NO ₃ ⁻	1.0	18.	53
Cl ⁻	-2.6	19.	35
Na ⁺	0.44	9.5	19
NH ₄ ⁺	-1.3	21.	14
Ca ⁺²	-0.62	17.	43
Mg ⁺²	7.2	21.	37
H ⁺	-0.98 ^(a)	9.0	67

^(a) Equivalent to -0.004 pH units at a pH of 4.00

the duplicate analysis data set are included in the statistical examination. Table 17 lists the mean and standard deviation for these same ions when only samples with concentrations greater than ten times the minimum detection limit for a given species are included in the examination. Note that the data set used to generate Table 17 thus excludes samples for which precision estimates would be plus/minus the specie detection limit, and for which the relative percent difference is high due to the low concentrations involved. Elimination of such samples reduces the variance for species such as chloride, and calcium, which are often present in small quantities. Elimination of such samples also greatly reduces the size of the overall data set for a given species (note values for magnesium). This, in turn, can lead to a larger influence of a particular sample on the overall species statistics and an increase in the mean relative percent difference. For example, if two samples are excluded from the ten used to generate the ammonia statistics in Table 17, the mean relative percent difference drops to 1.0%, with a standard deviation of 5.9%. These particular samples may

TABLE 17. Mean Relative Differences for Duplicate Analysis Data:
Data <10 Times Detection Limit Excluded

Analyte	Mean Relative Difference (%)	Standard Deviation (%)	Number of Samples in Analysis
Sulfur	-0.43	8.8	37
NO ₃ ⁻	-1.7	9.6	51
Cl ⁻	1.4	14.0	22
Na ⁺	2.8	6.4	12
NH ₄ ⁺	6.4	13.0	10
Ca ⁺²	0.94	7.8	21
Mg ⁺²	0.0	0.0	0
H ⁺	-0.98 ^(a)	9.0	67

(a) Equivalent to -0.004 pH units at a pH of 4.00

have been chemically unstable and changed between analytical sessions. Inclusion of such samples can thus be seen to be a conservative estimate of the PNL analytical precision. It can also be seen that the laboratory in general is well within its desired precision goal of ±10%.

4.3 INTERLABORATORY COMPARISONS

Sample exchanges between laboratories offer excellent comparisons for analysis accuracy. During 1983, there were three such opportunities for the PNL laboratory, in addition to the USGS blind sample program. The first of these involved the exchange of MAP3S/PCN samples with the Institute for Mining and Minerals Research (IMMR) of the Kentucky Center for Energy Research Laboratory.

Four MAP3S/PCN samples were retrieved from storage and sent to IMMR for analysis. The samples were not returned to PNL, therefore, the analysis results shown were the original PNL data obtained. Table 18 is a list of the analysis results between the two laboratories.

TABLE 18. Comparison Between IMMR and PNL Chemical Analyses: MAP3S/PCN Rain Samples

Sample ID	NH_4^+ ($\mu\text{mol/L}$) IMMR/PNL	Na^+ ($\mu\text{mol/L}$) IMMR/PNL	K^+ ($\mu\text{mol/L}$) IMMR/PNL	Ca^{2+} ($\mu\text{mol/L}$) IMMR/PNL	Mg^{2+} ($\mu\text{mol/L}$) IMMR/PNL
830803 Lewes	<0.5/<0.5	12/9.4	1.5/<2	10/8.0	3.7/3.0
830829 Lewes	7.2/8.1	2.2/2.4	0.51/<2	0.5/<0.5	0.41/0.21
830812 Penn State	36/36	0.87/0.60	0.77/<2	11/10	1.6/1.4
830524 BNL	9.5/10	5.2/8.4	6.1/<1	1.7/1.0	0.41/1.0
Sample ID	pH IMMR/PNL	Cond. ($\mu\text{mho/cm}$) IMMR/PNL	$\text{SO}_4^{=}$ ($\mu\text{mol/L}$) IMMR/PNL	NO_3^- ($\mu\text{mol/L}$) IMMR/PNL	Cl^- ($\mu\text{mol/L}$) IMMR/PNL
830803 Lewes	3.95/3.99	39/52	7.5/8.0	<D.L. ^(a) /1.5	2.8/2.9
830829 Lewes	4.35/4.23	22/26	23/23	13/13	4.8/5.7
830812 Penn State	3.65/3.68	85/99	102/100	56/59	5.9/8.6
830524 BNL	4.39/4.38	21/20	20/17	24/15	11/9.5

^(a)D.L. = Detection Limit

The second sample exchange occurred with Brookhaven National Laboratory (BNL) and was conducted in December 1983. Three MAP3S/PCN samples were again retrieved from storage and sent to BNL. The results are shown in Table 19.

The third sample exchange was with Environment Canada. PCL participated in the LRTAP Interlaboratory Comparability Study #5. The MAP3S Precipitation Chemistry Laboratory received a satisfactory ranking on all of the parameters we reported except for K^+ ; PCL tended to be lower than the recommended values on the K^+ concentrations.

4.4 FIELD BLANKS AND pH TEST RESULTS

The collection of samples to represent field blank conditions began during the fall of 1982. When seven days (approximately) have passed without a precipitation event, the site operator replaces the sample bucket and treats the sample as follows: a quantity of deionized water (about 250 mL sent from PCL) is added to the bucket, the bucket is agitated, then left to soak covered about 24 hours. Then the water in the bucket is treated exactly like a normal precipitation sample, except that a special identification is used.

The masses of chemical species of interest found in the field blank samples are thus approximations of the contributions to precipitation chemistry during spurious openings, air leakage, contamination from sample handling, etc.

Several field blank samples have been collected at most sites and an analysis was performed to evaluate the blank contributions. The quantity calculated for a given species is the ratio of blank mass (M_B) to precipitation mass (M_P), where each is defined as follows:

$$M_B = \bar{C}_B \bar{V}_B, \quad (4)$$

where $\bar{C}_B$ = mean species concentration of N field blank samples

$\bar{V}_B$ = mean volume of N field blank samples.

TABLE 19. Comparison Between BNL and PNL Chemical Analyses:
MAP3S/PCN Rain Samples

Sample ID	Field pH	Lab pH	NH_4^+ ($\mu\text{mol/L}$)	Na^+ ($\mu\text{mol/L}$)	Ca^{2+} ($\mu\text{mol/L}$)
	BNL/Site ^(a)	BNL/PNL ^(b) /PNL ^(c)	BNL/PNL ^(b) /PNL ^(c)	BNL/PNL ^(b) /PNL ^(c)	BNL/PNL ^(b) /PNL ^(c)
830917 Penn State	4.05/4.02	4.01/4.02/3.99	22/21/24	7.8/6.2/5.8	7.0/6.0 ^(c)
830922 Virginia	4.42/3.95	4.40/4.38 ^(b)	13/9.6 ^(b)	1.7 ^(b)	0.75 ^(b)
8309147 Lewes	3.76/3.72	3.78/3.78 ^(b)	34/31 ^(b)	45 ^(b)	4.5 ^(b)

Sample ID	Cond. ($\mu\text{mho/cm}$)	$\text{NO}_2^- + \text{NO}_3^-$ ($\mu\text{mol/L}$)	$\text{SO}_4^{=}$ ($\mu\text{mol/L}$)	Cl^- ($\mu\text{mol/L}$)
	BNL/PNL ^(b) /PNL ^(c)	BNL/PNL ^(b) /PNL ^(c)	BNL/PNL ^(b) /PNL ^(c)	BNL/PNL ^(b) /PNL ^(c)
830917 Penn State	39/47/46	46/45/47	48/44/43	8.5/7.0/7.4
830922 Virginia	20/20 ^(b)	17/15 ^(b)	19/16 ^(b)	2.3 ^(b)
830914 Lewes	87/88 ^(b)	01.8/60 ^(b)	82/70 ^(b)	51 ^(b)

^(a) Field pH measured at the MAP3S/PCN collection site

^(b) Analysis at PNL before sending samples to BNL (October)

^(c) Analysis at PNL after sample return from BNL (December)

$$M_p = \bar{C}_p V_p , \quad (5)$$

where $\bar{C}_p$ = mean deposition weighted species concentration (from 1982-1983 precipitation chemistry data [see section 4.0]).

V_p = mean volume of sample/week.

$$\bar{V}_p = \frac{\bar{P}A}{W} , \quad (6)$$

where $\bar{P}$ = mean annual precipitation (1982-1983)

A = area of collector

W = number of weeks in a year

Table 20 shows results for sites where more than one field blank sample had been collected by February 1, 1984. The range of values for M_B/M_p represents the limits for interpretation of minimum detectable concentrations (MDL) in blank samples. The lower figure represents MDL's taken as zero, and the higher figure taken as the MDL value. Numbers preceded by "<" indicate all MDL values for the blanks. The hydrogen ion concentration corresponding to pH = 5.6 was subtracted from the field blank H^+ values, and the MDL taken as zero.

Generally, near- or at-MDL values for most species were observed in the field blank samples. The mass ratios vary, however, since the average precipitation concentrations vary. Thus, higher fractions of minor species (e.g., Na, Cl, Ca) may be attributable to field conditions, but the minimum detectable for the ratios for these species are also higher. It is encouraging to note that at Lewes, Delaware^(a), where Cl^- , and Na^+ are not minor species, the ratios were low, indicating sufficient protection of the samples from the marine environment.

(a) and at Brookhaven for its one sample, not shown.

TABLE 20. Field Blank Results

Site	N	$V_B(L)$	$V_P(L)$	$M_B/M_P(\%)$						
				S	NO_3	H	NH_4	Na	Cl	Ca
Penn State	7	0.25	1.32	0.7-0.8	0.3-0.4	0.2	0.8-1.3	6.7-8.8	<3.0	<2.7
Virginia	3	0.25	1.53	0.7-0.8	0.6-0.7	0.5	1.4-1.9	3.3-4.3	<1.9	5.2-8.9
Illinois	6	0.25	1.19	0.9-1.0	0.8-1.0	0.3	1.1-1.6	5.3-7.5	8.2-12.	3.7-5.4
Lewes	12	0.25	1.61	0.4-0.5	0.5-0.6	0.4	1.4-2.2	0.89-0.9	0.2-0.4	<2.7
Oxford	3	0.25	1.33	0.2-0.3	0.2-0.3	0.4	0.7-1.2	3.3-4.9	4.9-7.9	<2.8
Oak Ridge	3	0.25	1.72	0.3-0.4	0.3-0.4	0.4	<0.8	<1.5	<2.5	<2.5

TABLE 21. pH Test Results

<u>Site</u>	<u>Field pH Test</u>	<u>PCL pH Test</u>	<u>Original PCL pH Measurement</u>
Whiteface	4.40	4.37	4.39
	4.42	4.41	4.47
Ithaca	4.35	4.34	4.40
Penn State	4.02	3.96	3.97
	4.02	4.03	4.05
Illinois	4.65	4.58	4.56
Brookhaven	4.20	4.21	4.21
Lewes	4.48	4.43	4.40
	4.04	4.02	4.05
	3.65	3.69	3.67
Oxford	4.22	4.16	4.19

It appears that insignificantly small amounts of the four major species are contributed by field conditions.

Measurement of pH test samples sent from PCL to the sites also began in 1983. Periodically test samples are sent to the sites where the pH is measured as for a rain sample or field blank. The measured pH is written on the shipping bottle, and the bottle with the remaining sample in it is resealed and shipped back to PCL with the next shipment. At PCL the pH is measured again. Table 21 lists the results of the pH tests.

4.5 SITE AUDITS

In the fall of 1983, site visitations and audits were made by PCL personnel to all nine MAP3S sites. M. Terry Dana visited Site #4, Virginia, on November 13, 1983; Site #7, Lewes, on November 14-15, 1983; and Site #9, Oak Ridge, on November 11, 1983. Elaine Chapman visited Site #1, Whiteface, on September 26, 1983, and Site #2, Ithaca, on September 22, 1983. Richard Lee visited Site #3, Penn State, on November 1, 1983; and Site #6, Brookhaven, on November 17, 1983. Jane Rothert visited Site #5,

Illinois, on November 16-18, 1983, and Site #8, Oxford, Ohio, on November 11, 1983. The audit forms used at each site for the site audits follow. In general, the site operators were following standard operating procedures as set down in the Site Operator's Manual. Particular attention was paid to the problems discovered during the 1982 Site Audits. None of the problems from 1982 were evident in 1983. Although minor problems and questions were discussed at each site, no major problems were discovered. Better communication between PCL and the operators because of the audits was cited as the reason for better site performance. The problems found were discussed and corrective action taken. Table 22 is a summary of the results of the pH tests solutions used during the audits.

4.6 SAMPLE SHIPPING AND ANALYSIS

During 1983, 744 events were reported from the nine MAP3S/PCN sites. Table 23 shows the average length of time per site that events were stored before shipping and the average length of time per site that events were in transit. It should be noted that the sites ship once a month. This means that the length of time events were stored before shipping should be less than 30 days. The average length of time from sample arrival at the laboratory to analysis start was 7 days. The average time from analysis start to finish was 20 days.

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 10 Whiteface Mtn.AUDITOR E. ChapmanSITE OPERATOR Marc DuBoisDATE 9/26/83SITE MANAGER John KadlecsekPRESENT M. DuBois, E. Chapman

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control		X		See Note A
B. Sample Changing				
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			
4) Cleaning of Collector Pad	X			
5) Handling on Return	X			
C. Lab Handling & Measurement				
1) Weighing Bucket	X			See Note B
2) TCM Aliquot	X			
3) TCM Fixing	X			
4) pH Aliquot	X			
5) pH Procedure	X			pH of Test Sol. <u>3.75</u> <u>3.88</u>
a) calibration	X			T of Test Sol. <u>18.8°C</u>
b) recalibration	X			
6) Shipping Aliquot(s)	X			
7) Blank Procedure	X			
D. Storage of Samples	X			
E. Shipping Procedure				
1) Taping Bottles	X			Is left-handed; correct motion comes easily.
2) Blue Ice Control		X		See Note A
3) Packing	X			
4) Separation of TCM	X			
F. Cleaning of Reused Buckets	X			
G. Rainfall Determination				
Calculation of Pred. Vol.	X			

MAP3S/RAINE/PCN SITE AUDIT FORM

PAGE 2 of 3

SITE # 10 Whiteface Mtn

AUDITOR E. Chapman

SITE OPERATOR Marc DuBois

DATE 9/26/83

2. Discussion	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	<u>X</u>			
1) Understands QA Requirements	<u>X</u>			
B. Understanding of Forms				
1) Data Log	<u>X</u>			
2) Rainfall	<u>X</u>			
3) Embarkation	<u>X</u>			
4) Significant Figures	<u>X</u>			
5) Records Unusual Items?	<u>X</u>			
6) Copy or Original:	<u>ASRC requires originals to remain on site.</u>			
C. Sampling Days of Week	<u>See Note C.</u>			
D. Awareness of Data Reports				
1) Any on Hand?	<u>X</u>			
2) Checks Data?	<u>X</u>			
E. Complaints				
1) Deficiencies in Instructions?				
2) Supply Problems?				

- Needs white vinyl tape and fiberglass strapping tapes.
- Field pH check samples have leaked in transit-only fluid left in bottle used for measurements.
- Asked to have field/lab pH measurements compared regularly-has no backup pH electrodes or other way of telling if current electrode is going bad.
- Site Manager has instructed operator to change buckets if a 6 hour break in precipitation occurs.
- Has had problems with birch seeds and cluster flies clogging tipping bucket gauge. Cleans regularly to prevent.

SITE # 10 Whiteface MtnAUDITOR E. ChapmanSITE OPERATOR Marc DuBoisDATE 9/26/833. Additional Notes/Items of Discussion
(Reference page 1)

- A. Problem with college students "borrowing" MAP3S equipment, especially Blue Ice. Current set-up does not easily permit lock-up of MAP3S equipment.
- B. Does not have scale with sufficient capacity to weigh collector buckets containing precipitation. Individually weighs pH and TCM aliquots, filled sample bottles, and remaining sample in portions small enough to fit on scale.
- C. Does not have permanent back-up for weekends or vacations.
- D.
- E.
- F.
- G.

4. Major Problems

Site supply security

5. Summary

ACTION REQUIRED

Request Site Manager to provide locked, secured area for MAP3S supplies, especially Blue Ice, and to fully delineate MAP3S and SUNY equipment use to all current and incoming college students working at Whiteface (especially summer students)

ACTION PERFORMED

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 20 Ithaca

AUDITOR E. Chapman

SITE OPERATOR Tom Butler

DATE 9/22/83

SITE MANAGER Gene Likens

PRESENT T. Butler, E. Chapman

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			
B. Sample Changing				
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			
4) Cleaning of Collector Pad	X			
5) Handling on Return	X			
C. Lab Handling & Measurement				
1) Weighing Bucket	X			
2) TCM Aliquot	X			
3) TCM Fixing	X			
4) pH Aliquot	X			
5) pH Procedure	X			pH of Test Sol. <u>3.77</u> <u>3.87</u>
a) calibration	X			T of Test Sol. <u>24°C</u>
b) recalibration	X			
6) Shipping Aliquot(s)	X			
7) Blank Procedure	X			
D. Storage of Samples	X			
E. Shipping Procedure				
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			
4) Separation of TCM	X			
F. Cleaning of Reused Buckets	X			
G. Rainfall Determination				
Calculation of Pred. Vol.	X			

MAP3S/RAINE/PCN SITE AUDIT FORM

PAGE 2 of 3

SITE # 20 IthacaAUDITOR E. ChapmanSITE OPERATOR Tom ButlerDATE 9/22/83

2. Discussion	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms				
1) Data Log	X			
2) Rainfall	X			
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			
6) Copy or Original:	X			
C. Sampling Days of Week				
D. Awareness of Data Reports				
1) Any on Hand?	X			
2) Checks Data?	X			
E. Complaints				
1) Deficiencies in Instructions?				
2) Supply Problems?				Still getting syringes although doesn't use. Has had problems getting Blue Ice when asks for it.

SITE # 20 IthacaAUDITOR E. ChapmanSITE OPERATOR Tom ButlerDATE 9/22/833. Additional Notes/Items of Discussion
(Reference page 1)

- A. New AeroChemetric sampler installed about 1 month ago. Sensor heater does not work properly. Water on sensor and bucket exposed upon arrival at site although precip. had stopped 10-12 hours before. Tom to contact AeroChemetric and obtain new sensor.
- B. New sampler has teflon-coated snow roof (standard AeroChemetric option).
- C. "Hubbard Brook" project moved from next door laboratory. No longer has access to conductance meter. Now does TCM fixing in same room as sample processing, but performs as the last step.
- D. Site manager has moved. New address:
Gene Likens, Director
Institute of Ecosystem Studies
Cary Arboretum
PO Box AB
Millbrook, NY 12545

4. Major Problems

None

5. Summary

ACTION REQUIRED

Follow-up with Tom on performance of new collector sensor.

ACTION PERFORMED

SITE # 3 Penn StateAUDITOR Dick LeeSITE OPERATOR Jim HolianDATE Nov. 1, 1983SITE MANAGER Rosa dePenaPRESENT Jim Holian, Dick Lee

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			
B. Sample Changing				
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			
4) Cleaning of Collector Pad	X			Note A
5) Handling on Return	X			
C. Lab Handling & Measurement				
1) Weighing Bucket	X			
2) TCM Aliquot	X			
3) TCM Fixing	X			
4) pH Aliquot	X			
5) pH Procedure	See Note B			pH of Test Sol. 4.02 (#3603)
a) calibration	X (pH 4 and 7 buffers)			T of Test Sol. 25.1 ^u
b) recalibration				
6) Shipping Aliquot(s)	X			
7) Blank Procedure				
D. Storage of Samples	X			
E. Shipping Procedure				
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			
4) Separation of TCM				
F. Cleaning of Reused Buckets		X		
G. Rainfall Determination	X			
Calculation of Pred. Vol.	X			

SITE # 3 Penn StateAUDITOR Dick LeeSITE OPERATOR Jim HolianDATE Nov. 1, 1993

2. Discussion	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms				
1) Data Log	X			
2) Rainfall	X			
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			See note C
6) Copy or Original:	X			
C. Sampling Days of Week	X			
D. Awareness of Data Reports				
1) Any on Hand?	X			
2) Checks Data?	X			
E. Complaints				
1) Deficiencies in Instructions?				
2) Supply Problems?				Buckets, Blue Ice

SITE # 3 Penn StateAUDITOR Dick LeeSITE OPERATOR Jim HolianDATE Nov. 1, 1983

3. Additional Notes/Items of Discussion
(Reference page 1)

- A. It may be advisable to clean the rim of the dry deposition bucket periodically as a precaution against contamination of precipitation.
- B. The recorder formerly used to record pH meter output was out of service. It would be advisable to continue the practice of using a recorder to assess the stability of meter output.
- C. Jim is obviously alert to those factors that may influence the composition of collected precipitation or sampler performance. These observations are recorded.
There has been action taken on those items noted during the previous audit--vegetation at collection site and TCM transfer.
- E.
- F.
- G.

4. Major Problems -- The major concern I have is with the storage of chemicals in the area employed for sample transfer and bucket cleaning. I would advise checking the conductivity of the rinse used to clean all buckets rather than the rinse from a single bucket only.

5. Summary

I was impressed by the interest of the site operator. It was evident that he was aware of factors effecting sample collection and recorded observations
ACTION REQUIRED pertinent to data interpretation.

ACTION PERFORMED

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 4AUDITOR T DanaSITE OPERATOR Linda JolleyDATE 11/13/83SITE MANAGER Bill Keene/Jim Galloway PRESENT Jim Galloway and Linda Jolley

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			At site in shed
B. Sample Changing				
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			Dry-explained
4) Cleaning of Collector Pad	X			Dry chemwipe
5) Handling on Return				(Dry Run)
C. Lab Handling & Measurement				
1) Weighing Bucket	X			Pan Balance
2) TCM Aliquot		X		Uses beaker and glass pipette-
3) TCM Fixing	X			no syringe Auto pipettor in hood
4) pH Aliquot		X		Reuses plastic beaker for meas.
5) pH Procedure				pH of Test Sol. 4.38 257-15
a) calibration				4 & 7 buffers T of Test Sol. 19
b) recalibration				moved one meas. only
6) Shipping Aliquot(s)	X			
7) Blank Procedure				Hasn't got any solutions yet
D. Storage of Samples	X			Own fridg.
E. Shipping Procedure				
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			
4) Separation of TCM	X			
F. Cleaning of Reused Buckets				Has done once only
G. Rainfall Determination	X			
Calculation of Pred. Vol.	X			

No snow roof check on screen

MAP3S/RAINE/PCN SITE AUDIT FORM

PAGE 2 of 3

SITE # 4

AUDITOR Terry Dana

SITE OPERATOR Linda Jolley

DATE 11/13/83

2. Discussion	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms				
1) Data Log	X			
2) Rainfall	X			
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			
6) Copy or <u>Original</u> :	X			
C. Sampling Days of Week	X			
D. Awareness of Data Reports	X			
1) Any on Hand?				
2) Checks Data?	X			Checks IDs
E. Complaints				
1) Deficiencies in Instructions?	X			
2) Supply Problems?				Need field blanks

MAP3S/RAINE/PCN SITE AUDIT FORM

PAGE 3 of 3

SITE # 4

AUDITOR Terry Dana ^{NY}

SITE OPERATOR Linda Jolley

DATE 11/13/83

3. Additional Notes/Items of Discussion
(Reference page 1)

A.

B.

C.

D.

E.

F.

G.

4. Major Problems

5. Summary

ACTION REQUIRED

Check on screens for flat roof.
Field blank solutions - had sent 4 prior to audit.
Reuse instructions

ACTION PERFORMED

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 50AUDITOR Jane RothertSITE OPERATOR Scott DossettDATE 11-18-83SITE MANAGER Van BowersoxPRESENT Scott Dossett, Mike Slater, VanBowersox

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			
B. Sample Changing				
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			
4) Cleaning of Collector Pad	X			
5) Handling on Return	X			
C. Lab Handling & Measurement				
1) Weighing Bucket	X			
2) TCM Aliquot	X			
3) TCM Fixing	X			
4) pH Aliquot				
5) pH Procedure				pH of Test Sol. <u>3.80</u>
a) calibration	NADP			T of Test Sol. <u>066.3</u>
b) recalibration	protocol			
6) Shipping Aliquot(s)				
7) Blank Procedure				
D. Storage of Samples	X			
E. Shipping Procedure				
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			
4) Separation of TCM	X			
F. Cleaning of Reused Buckets	X NA			
G. Rainfall Determination				
Calculation of Pred. Vol.				

SITE # 50AUDITOR Jane RothertSITE OPERATOR Scott DossettDATE 11-18-83

2. Discussion

	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms				
1) Data Log	X			
2) Rainfall		X		
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			
6) Copy or Original:	X			
C. Sampling Days of Week				
D. Awareness of Data Reports				
1) Any on Hand?				
2) Checks Data? needs data				
E. Complaints				
1) Deficiencies in Instructions?				Mailing list for ppt. data not getting forms or letters at all
2) Supply Problems?				

SITE # 50AUDITOR Jane RothertSITE OPERATOR Scott DossettDATE 11-18-833. Additional Notes/Items of Discussion
(Reference page 1)

A.

B.

C.

D.

E.

F.

G.

4. Major Problems

5. Summary

Uses NADP protocol for pH/ Ω /sample handling/etc.

ACTION REQUIRED

Need to find out who gets what information. The right people for certain info.
are not getting it.

ACTION PERFORMED

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 6AUDITOR Dick LeeSITE OPERATOR John McNeilDATE Nov. 17, 1983SITE MANAGER Gil RaynorPRESENT: John McNeil, Chuck Bachsmilt (lab)

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	x			
B. Sample Changing				
1) Preparation	x			
2) Bucket Handling En Route	x			
3) Change of Buckets	x			
4) Cleaning of Collector Pad	x			
5) Handling on Return	x			
C. Lab Handling & Measurement				
1) Weighing Bucket	x			
2) TCM Aliquot	x			
3) TCM Fixing	x			
4) pH Aliquot	x			
5) pH Procedure	x			pH of Test Sol. <u>No sample</u>
a) calibration				T of Test Sol. <u>procedure</u>
b) recalibration				<u>described</u>
6) Shipping Aliquot(s)	x			
7) Blank Procedure	x			
D. Storage of Samples	x			
E. Shipping Procedure				Note A
1) Taping Bottles	x			
2) Blue Ice Control	x			
3) Packing	x			
4) Separation of TCM	x			
F. Cleaning of Reused Buckets	x			
G. Rainfall Determination	x			
Calculation of Pred. Vol.	x			

SITE # 6AUDITOR Dick LeeSITE OPERATOR John McNeilDATE Nov. 17, 1983

2. Discussion	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms				Note C
1) Data Log	X			
2) Rainfall	X			
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			
6) Copy or Original:	X			
C. Sampling Days of Week	X			
D. Awareness of Data Reports				
1) Any on Hand?	X			
2) Checks Data?	X			
E. Complaints				
1) Deficiencies in Instructions?				
2) Supply Problems?				250 ml bottles in short supply Note D

SITE # 6AUDITOR Dick LeeSITE OPERATOR John McNeilDATE Nov. 17, 1983

3. Additional Notes/Items of Discussion
(Reference page 1)

- A. The need to ship early in the week to achieve timely receipt at the Precipitation Chemistry Laboratory was discussed
- B. Bucket cleaning procedure was described and some buckets were being processed during visit.
- C. Greater care in filing records is recommended
- D. If polyethylene bottles of uncertain origin are used to ship precip. samples, they should be rinsed with distilled water and the conductivity of the rinse checked before receiving the precipitation sample.
- E.
- F.
- G.

4. Major Problems

5. Summary
Both John and Chuck are involved in other programs which involve the collection or handling of water samples. They are therefore well acquainted with the care required to preserve sample integrity.

ACTION REQUIRED

ACTION PERFORMED

SITE # 7AUDITOR Terry DanaSITE OPERATOR Joe ScudlarkDATE 11/14 & 15/83SITE MANAGER Tom ChurchPRESENT Joe Scudlark & Tom Church

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			has own room
B. Sample Changing	X			
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			new bag to cover sample
4) Cleaning of Collector Pad	X			
5) Handling on Return	X			
C. Lab Handling & Measurement				
1) Weighing Bucket	X			triple beam
2) TCM Aliquot	X			uses syringe
3) TCM Fixing	X			autopipettor
4) pH Aliquot	X			uses syringe - reuse glass beak
5) pH Procedure	X			pH of Test Sol. 3.49 26609
a) calibration	X		A	T of Test Sol. 22
b) recalibration	N/A			
6) Shipping Aliquot(s)	X			pours into bottle ok
7) Blank Procedure	X			
D. Storage of Samples	X			has own fridg
E. Shipping Procedure	X			has local shipping dept.
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			2 B-Is
4) Separation of TCM	X			
F. Cleaning of Reused Buckets	X			Carries water in bucket to site
G. Rainfall Determination	X			
Calculation of Pred. Vol.	X			uses 640 cm ²

Needs bag screen for rain gauge

MAP3S/RAINE/PCN SITE AUDIT FORM

PAGE 2 of 3

SITE # 7AUDITOR Terry DanaSITE OPERATOR Joe ScudlarkDATE 11/14 & 15/83

2. Discussion	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms	X			
1) Data Log	X			
2) Rainfall	X			
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			
6) Copy or Original:	X			
C. Sampling Days of Week	X			
D. Awareness of Data Reports	X			All 7 days
1) Any on Hand?	X			
2) Checks Data?	X			
E. Complaints				
1) Deficiencies in Instructions?				
2) Supply Problems?				

Interested in monthly avgs. etc.

nonlinear \$ - MAP3S sites

Lenks has 50 mi to sources

Would like data as soon as possible

SITE # 7AUDITOR Terry OanaSITE OPERATOR Joe ScudlarkDATE 11/15/833. Additional Notes/Items of Discussion
(Reference page 1)

A. Has numerous buffers - tries to bracket sample

B.

C.

D.

E.

F.

G.

4. Major Problems

5. Summary

ACTION REQUIRED

ACTION PERFORMED

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 80-OxfordAUDITOR Jane RothertSITE OPERATOR Randy MeyerDATE 11-11-83SITE MANAGER John Klink

PRESENT _____

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			exc. locked bldg.
B. Sample Changing				
1) Preparation	X			
2) Bucket Handling En Route	X			rite there
3) Change of Buckets	X			
4) Cleaning of Collector Pad	X			done before new bucket on
5) Handling on Return	X			
C. Lab Handling & Measurement				
1) Weighing Bucket	X			
2) TCM Aliquot	X			
3) TCM Fixing	X			how do you make TCM
4) pH Aliquot	X			after pour 8 oz. bottles
5) pH Procedure				pH of Test Sol. 3.86
a) calibration	X	4 and 7		T of Test Sol. 20.5 C measures
b) recalibration	X			of actual soln.
6) Shipping Aliquot(s)				
7) Blank Procedure				
D. Storage of Samples	X			fridge in room
E. Shipping Procedure				
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			
4) Separation of TCM	X			
F. Cleaning of Reused Buckets				need to send plastic gloves
G. Rainfall Determination				weighs actual
Calculation of Pred. Vol.				
				16.25 x rainfall of (0.01) increments

SITE # 80AUDITOR Jane RothertSITE OPERATOR Randy MeyerDATE 11-11-83

2. Discussion

	<u>GOOD</u>	<u>FAIR</u>	<u>POOR</u>	<u>REMARKS</u>
A. Operator's Manual on Hand	<u>X</u>			
1) Understands QA Requirements	<u>X</u>			
B. Understanding of Forms				
1) Data Log	<u>X</u>			
2) Rainfall	<u>X</u>			
3) Embarkation	<u>X</u>			
4) Significant Figures	<u>X</u>			
5) Records Unusual Items?	<u>X</u>			
6) Copy or Original:	<u>X</u>			
C. Sampling Days of Week				
D. Awareness of Data Reports				
1) Any on Hand?				
2) Checks Data?				<u>checks lab vs field pH for samples</u>
E. Complaints				
1) Deficiencies in Instructions?				<u>need a better "recipe" for TCM prep.</u>
2) Supply Problems?				<u>gloves, pH vials, plastic bags</u>

SITE # 80AUDITOR Jane RothertSITE OPERATOR Randy MeyerDATE 11-11-833. Additional Notes/Items of Discussion
(Reference page 1)

A.

B. is the dry side bucket necessary?, wipe off dry bucket rim after wipe bucket pad, check pad condition

C. -5 pH test soln. ID PC 266-17

D.

E.

F.

G.

4. Major Problems

5. Summary

ACTION REQUIRED

ACTION PERFORMED

MAP3S/PCN SITE AUDIT FORM

PAGE 1 of 3

SITE # 9AUDITOR Terry DanaSITE OPERATOR Jan CoeDATE 11/11/83SITE MANAGER Steve LindbergPRESENT Steve Lindberg and Jan Coe

1. Observation of Procedures/Practices

	GOOD	FAIR	POOR	REMARKS
A. Supplies Security & Control	X			has own lab room
B. Sample Changing	X			
1) Preparation	X			
2) Bucket Handling En Route	X			
3) Change of Buckets	X			
4) Cleaning of Collector Pad	X			
5) Handling on Return		X		no tape - usually holds - A
C. Lab Handling & Measurement	X			
1) Weighing Bucket	X			nearby lab - carries bucket
2) TCM Aliquot	X			
3) TCM Fixing	X			
4) pH Aliquot	X			
5) pH Procedure	Stirred ok pH of Test Sol. 3.52 26609			
a) calibration	7&4 (NADP buffers) T of Test Sol. 22			
b) recalibration	N/A			
6) Shipping Aliquot(s)	X			
7) Blank Procedure	X			
D. Storage of Samples	X			own fridg.
E. Shipping Procedure	X			
1) Taping Bottles	X			
2) Blue Ice Control	X			
3) Packing	X			
4) Separation of TCM	X			
F. Cleaning of Reused Buckets	X			has new method-former was good
G. Rainfall Determination	X			NADP/BELFORT CHART-Auto Calc.
Calculation of Pred. Vol.	X			

MAP3S/RAINE/PCN SITE AUDIT FORM

PAGE 2 of 3

SITE # 9AUDITOR Terry DanaSITE OPERATOR Jan CoeDATE 11/11/83

2. Discussion

	GOOD	FAIR	POOR	REMARKS
A. Operator's Manual on Hand	X			
1) Understands QA Requirements	X			
B. Understanding of Forms	X			
1) Data Log	X			
2) Rainfall	X			
3) Embarkation	X			
4) Significant Figures	X			
5) Records Unusual Items?	X			
6) Copy or Original:	X			
C. Sampling Days of Week		X		Mon-Fri--can't help it
D. Awareness of Data Reports	X			
1) Any on Hand?	X			
2) Checks Data?	X			
E. Complaints				
1) Deficiencies in Instructions?	X			
2) Supply Problems?				bucket delivery has been a problem

Screen or lid roof needed

SITE # 9AUDITOR Terry DanaSITE OPERATOR Jan CoeDATE 11/11/833. Additional Notes/Items of Discussion
(Reference page 1)

A. No trouble with loss yet, but drop and complete loss possible

B.

C.

D.

E.

F.

G.

4. Major Problems

5. Summary

ACTION REQUIRED

Lid screen - check on how and use or get roof

Check for data tapes early - and DEC net--want to?

ACTION PERFORMED

TABLE 22. QA Site Audit pH Test Solution Results

<u>Site</u>	<u>Site pH</u>	<u>PCL Original</u>	<u>PCL Final</u>
Whiteface	3.75 3.88	3.74 3.86	3.77 3.90
Ithaca	3.77 3.87	3.74 3.86	3.77 3.90
Penn State	4.02	4.05	4.03
Virginia	4.38	4.45	4.39
Illinois	3.80	3.82	3.79
Brookhaven	NAP	NAP	NAP
Lewes	3.49	3.51	3.48
Oxford	3.86	3.82	3.79
Oak Ridge	3.52	3.51	3.48

NAP = No Analysis Performed

TABLE 23. Average Sample Shipping and Storage Times

<u>Site</u>	<u>Last Event To Shipping (days)</u>	<u>Shipping to Arrival (days)</u>	<u>First Event To Shipping (days)</u>
Whiteface	3	4	25
Ithaca	1	4	28
Penn State	4	3	26
Virginia	5	5	25
Illinois	8	5	35
Brookhaven	4	3	21
Lewes	4	4	27
Ohio	4	6	29
Oak Ridge	6	4	30

5.0 STATISTICAL SUMMARY FOR 1982-1983

A new set of precipitation chemistry statistics algorithms were applied to the data for 1982 and 1983. The editing and calculation procedures vary slightly from the methods used before, but past results (7) statistically were reproduced without significant change. The editing procedure, along with additional notation information is detailed in Table 24.

General statistics for individual major species are shown in Tables 25-26. Standard computer library routines were used for most parameters. The sites are listed by name abbreviation in numerical order (see Table 7), and the parameter column headings are defined as follows:

NTOT	-	total number of events reported
NEDT	-	number of events included in calculations after edit (see Table 24)
MIN, MAX	-	minimum and maximum values ($\mu\text{mol/L}$)
A-MEAN	-	arithmetic standard deviation ($\mu\text{mol/L}$)
G-MEAN	-	geometric mean (antilogarithm of the mean of the logarithms) ($\mu\text{mol/L}$)
G-SD	-	geometric standard deviation (antilogarithm of the standard deviation of the logarithms)
MED	-	median (magnitude of the (NEDT/20th sample, ordered by magnitude) ($\mu\text{mol/L}$))
CENTILE VALUES	-	same as median, but for 5, 25, 75, 95, percent ('05' = magnitude of (NEDT/20th sample, etc.))

It should be noted that the minimum is for some species often equal to the minimum detectable limit divided by two as prescribed by the editing routine (see Table 24). In these cases, (e.g., for S-IV, Na, Mg), several of the statistical parameters may be affected by this artificial treatment of unmeasurable concentrations. Significant figures in printing the statistical parameters were deliberately restricted to demonstrate the questionable usefulness of some parameters for some species.

**TABLE 24. Procedures for Precipitation Chemistry
Laboratory (PCL) Data Base Calculations**

A. DEFINITIONS OF CALCULATED PARAMETERS

1. PRECIPITATION (cm). The greater of sample volume or predicted volume divided by collector area.

NOTE: Collector areas vary with time. See Table 10.

2. COLLECTION EFFICIENCY. The ratio of sample volume to predicted volume.
3. TIME (yr). Time of collection data in years since January 1, 1976.

B. GENERAL EDIT ROUTINE (LISTED IN ORDER OF PRIORITY FOR ACTION)

1. If precipitation is missing (both volumes missing), sample is removed. Number of samples thus removed is counted.
2. If collection efficiency exists (both volumes exist), and is less than 0.5, sample is removed and numbers so removed counted. (Sample is retained if one of volumes is missing.)
3. If concentration (or other parameter of interest) is missing, sample is removed and numbers so removed counted.
4. If concentration is below MDL, concentration is set to MDL/2.

NOTE: This has no effect on averages for major species. Minor species such as 'SO₂' or 'K⁺' could be significantly affected by this action, so caution should be taken.

Each of the above four steps may be bypassed, according to the particular application.

For weighted averaging, ALL FOUR are operative.

C. ADDITIONAL NOTES ON WEIGHTED AVERAGES

1. Total precipitation (for samples before the general edit) is compared with precipitation for those samples surviving the edit. If the latter is less than 80% of the former, the weighted average is replaced by "IPC" (insufficient precipitation coverage).

TABLE 24. Continued

2. Precipitation reported is total precipitation (pre-edit), but all weighting is done with post-edit precipitation.
3. Averages for periods with less than two events available for averaging are not reported.

Monthly and annual statistics are shown in Tables 27-31. Precipitation totals (as defined in Table 24) are shown in Table 27 and Table 28 shows monthly total and edited numbers of events for each site. Missing numbers ("----") indicate no surviving events in the period. The numbers of events included in the averages vary from species to species, but only those for total sulfur ("S") are shown here because of space limitations. Generally, sulfur (sulfate) measurements are made on more samples than any other species. Fractions of precipitation included in the average are shown for each species, however, in the averages Tables 29-30. If this value is less than 0.8, "IPC" (i.e., insufficient precipitation coverage) is entered in the weighted average table.

A more complete statistical analyses of these data and the complete MAP3S/PCN data base (1976-1983), including time trend analysis and correlations, will be submitted for journal publication during the fall of 1984.

TABLE 25. General Statistics for 1982

INDIVIDUAL DATA FOR SPECIES S											CENTILE VALUES			
SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95	
WH	107	86	2.1	170.	27.	26.	19.2	2.3	19.5	5.1	11.0	32.	68.	
IT	82	81	3.8	220.	46.	47.	30.8	2.5	30.0	7.4	18.0	51.	150.	
PS	98	80	5.4	190.	50.	38.	37.9	2.2	40.0	9.0	20.0	69.	130.	
VA	66	52	2.9	170.	37.	33.	26.2	2.4	30.0	3.2	14.0	48.	110.	
IL	100	77	2.5	160.	44.	30.	34.3	2.1	35.0	8.4	21.0	54.	100.	
BR	71	61	0.5	120.	34.	30.	22.0	2.9	22.0	4.0	12.0	44.	96.	
LE	78	62	1.9	130.	27.	22.	19.7	2.4	21.0	2.8	10.0	38.	60.	
OX	93	73	3.8	180.	43.	36.	32.5	2.1	31.0	6.0	20.0	49.	110.	
OR	64	60	4.3	105.	31.	17.	26.1	1.8	26.0	7.6	18.0	42.	58.	

INDIVIDUAL DATA FOR SPECIES NO3											CENTILE VALUES			
SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95	
WH	107	86	3.4	110.	30.	24.	21.7	2.3	24.0	5.0	10.0	38.	72.	
IT	82	81	5.9	280.	48.	39.	37.0	2.1	38.0	7.7	22.0	62.	100.	
PS	98	80	7.0	170.	51.	32.	42.1	1.9	45.5	12.0	27.0	66.	100.	
VA	66	52	0.2	120.	35.	25.	27.9	1.9	25.0	8.7	17.0	43.	84.	
IL	100	77	7.1	130.	40.	28.	32.3	2.0	35.0	11.0	17.0	50.	100.	
BR	71	62	0.2	130.	35.	34.	18.4	4.0	17.5	1.1	0.5	59.	97.	
LE	78	62	1.3	120.	26.	25.	17.0	2.0	19.0	2.3	7.6	32.	63.	
OX	93	73	6.0	110.	34.	25.	26.5	2.1	26.0	6.5	15.0	48.	84.	
OR	64	60	1.8	95.	23.	17.	18.0	2.1	18.5	5.8	11.0	27.	54.	

INDIVIDUAL DATA FOR SPECIES CL											CENTILE VALUES			
SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95	
WH	107	86	0.3	19.	4.	3.	2.9	2.1	2.9	0.8	1.9	4.	9.	
IT	82	81	1.6	39.	0.	7.	6.2	2.1	6.4	2.0	3.6	11.	20.	
PS	98	80	2.0	46.	10.	0.	8.0	2.0	7.7	2.6	5.4	11.	27.	
VA	66	52	0.3	460.	17.	63.	6.0	3.0	5.4	1.5	2.8	11.	20.	
IL	100	77	1.9	42.	8.	7.	6.4	1.9	6.5	2.4	3.7	8.	22.	
BR	71	62	2.3	120.	36.	32.	22.5	2.9	26.0	2.8	9.5	57.	93.	
LE	78	62	1.1	610.	59.	92.	32.1	3.0	34.5	6.8	14.0	64.	170.	
OX	93	73	2.0	31.	7.	6.	6.1	1.8	5.6	2.2	4.0	8.	18.	
OR	64	60	1.9	33.	8.	7.	6.1	1.9	5.2	2.6	3.8	8.	25.	

MAP3S PRECIPITATION CHEMISTRY NETWORK
GENERAL STATISTICS FOR 1 YEARS, BEGINNING WITH 1 JAN 1982 -- PCL DATA BASE

INDIVIDUAL DATA FOR SPECIES S-IV

SITE	NTOT NEDT		MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	89	0.1	4.	0.	1.	0.1	2.5	0.1	0.1	0.1	0.	1.
IT	82	72	0.1	8.	1.	1.	0.2	3.9	0.1	0.1	0.1	1.	4.
PS	98	85	0.1	25.	1.	3.	0.4	4.8	0.2	0.1	0.1	1.	7.
VA	66	49	0.1	13.	1.	2.	0.2	3.5	0.1	0.1	0.1	0.	3.
IL	100	51	0.1	6.	1.	1.	0.3	3.7	0.1	0.1	0.1	1.	3.
BR	71	67	0.1	6.	0.	1.	0.2	3.0	0.1	0.1	0.1	0.	2.
LE	78	65	0.1	10.	1.	2.	0.2	3.3	0.1	0.1	0.1	0.	4.
OX	93	72	0.1	13.	2.	3.	0.5	6.7	0.1	0.1	0.1	5.	9.
OR	64	60	0.1	7.	1.	1.	0.2	3.2	0.1	0.1	0.1	0.	2.

INDIVIDUAL DATA FOR SPECIES COND

SITE	NTOT NEDT		MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	82	2.9	115.	27.	20.	20.9	2.1	22.5	5.9	13.0	35.	60.
IT	82	79	5.8	170.	41.	31.	32.6	2.0	32.0	7.4	21.0	51.	110.
PS	98	79	7.1	140.	46.	28.	38.3	1.9	43.0	13.0	21.0	57.	99.
VA	66	52	5.6	164.	37.	31.	29.0	2.0	30.0	10.0	17.0	40.	84.
IL	100	77	5.9	100.	36.	22.	29.5	1.9	28.0	11.0	18.0	45.	76.
BR	71	62	1.7	120.	37.	29.	26.3	2.5	24.5	4.5	14.0	52.	96.
LE	78	60	3.0	140.	30.	22.	24.2	2.0	24.5	5.8	17.0	37.	64.
OX	93	73	9.7	140.	36.	27.	29.1	1.9	28.0	10.0	17.0	42.	94.
OR	64	60	4.8	100.	28.	16.	24.2	1.8	24.0	7.3	17.0	34.	54.

INDIVIDUAL DATA FOR SPECIES ASUM

SITE	NTOT NEDT		MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	86	8.9	460.	88.	72.	66.3	2.2	72.9	17.6	35.8	100.	191.
IT	82	81	10.6	744.	149.	128.	112.2	2.1	106.1	29.5	72.8	177.	394.
PS	98	80	24.2	569.	163.	102.	133.7	1.9	132.0	40.4	85.6	218.	366.
VA	66	52	14.1	840.	125.	128.	94.4	2.1	100.4	28.8	57.0	127.	286.
IL	100	77	33.6	459.	136.	87.	113.0	1.8	116.2	38.0	64.8	162.	282.
BR	71	61	4.6	395.	138.	96.	102.6	2.5	118.0	21.7	62.8	173.	299.
LE	78	62	6.2	675.	140.	114.	107.5	2.2	114.0	24.3	72.0	166.	265.
OX	93	73	28.6	464.	128.	94.	103.1	1.9	101.4	37.0	57.5	147.	314.
OR	64	60	13.4	284.	92.	52.	79.0	1.8	76.2	29.1	57.4	110.	188.

MAP36 PRECIPITATION CHEMISTRY NETWORK
GENERAL STATISTICS FOR 1 YEARS, BEGINNING WITH 1 JAN 1982 -- PCL DATA BASE

INDIVIDUAL DATA FOR SPECIES H

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	87	2.3	182.	56.	39.	42.8	2.3	44.7	7.2	26.3	81.	117.
IT	82	81	13.8	479.	93.	77.	72.1	2.0	75.9	16.2	46.8	105.	219.
PS	98	80	0.9	245.	90.	54.	71.4	2.3	84.1	16.6	50.1	115.	209.
VA	66	52	12.9	316.	74.	61.	57.3	2.1	61.0	13.5	33.9	79.	191.
IL	100	77	0.4	186.	63.	45.	41.8	3.4	49.0	1.1	30.9	87.	151.
BR	71	62	2.7	257.	70.	62.	44.7	2.8	41.2	5.2	20.4	105.	200.
LE	78	61	2.2	295.	50.	48.	32.8	2.8	37.2	3.0	19.1	63.	115.
OX	93	73	6.0	309.	72.	54.	57.8	2.0	55.0	21.4	35.5	87.	174.
OR	64	60	9.8	186.	57.	34.	48.7	1.8	47.9	17.4	31.6	81.	112.

INDIVIDUAL DATA FOR SPECIES NH4

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	86	0.3	120.	15.	18.	7.7	4.1	10.0	0.3	3.8	21.	45.
IT	82	81	0.3	110.	24.	22.	14.7	3.2	17.0	1.5	8.0	31.	61.
PS	98	80	1.4	110.	27.	23.	17.9	2.7	21.5	2.3	9.0	39.	71.
VA	66	52	0.3	62.	19.	17.	10.9	3.5	13.5	0.3	4.5	30.	57.
IL	100	77	1.6	210.	31.	32.	20.8	2.5	21.0	4.1	12.0	32.	82.
BR	71	62	0.3	94.	16.	21.	7.2	4.0	6.8	0.7	2.4	19.	56.
LE	78	62	0.3	55.	15.	14.	7.0	3.9	8.7	0.3	3.8	25.	38.
OX	93	73	0.3	93.	21.	19.	13.1	3.2	17.0	0.3	7.1	26.	48.
OR	64	60	0.5	56.	13.	12.	7.9	3.1	10.0	0.7	3.0	18.	30.

INDIVIDUAL DATA FOR SPECIES NA

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	86	0.3	20.	4.	4.	2.1	2.7	2.0	0.4	0.9	5.	12.
IT	82	81	0.3	24.	4.	5.	2.4	2.9	2.3	0.4	1.2	5.	13.
PS	98	80	0.4	47.	9.	9.	5.3	2.8	4.5	1.2	2.3	11.	29.
VA	66	52	0.8	390.	13.	54.	4.1	3.1	3.5	0.9	1.8	8.	16.
IL	100	77	0.3	34.	5.	6.	2.9	2.7	2.7	0.5	1.5	7.	14.
BR	71	62	0.4	110.	33.	30.	18.7	3.6	23.0	1.5	8.4	46.	80.
LE	78	62	0.4	390.	50.	66.	27.3	3.3	33.5	2.1	12.0	56.	140.
OX	93	73	0.6	27.	7.	6.	4.8	2.3	4.7	0.9	3.0	8.	18.
OR	64	60	0.6	36.	6.	7.	4.4	2.5	4.3	1.0	2.1	8.	21.

MAP3S PRECIPITATION CHEMISTRY NETWORK
GENERAL STATISTICS FOR 1 YEARS, BEGINNING WITH 1 JAN 1982 -- PCL DATA BASE

INDIVIDUAL DATA FOR SPECIES CA

SITE	NTOT NEDT		MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	85	0.3	36.	3.	4.	1.6	3.0	1.7	0.3	0.8	4.	8.
IT	82	80	0.3	42.	6.	7.	3.0	3.5	3.3	0.3	1.2	8.	17.
PS	98	80	0.6	37.	8.	8.	5.2	2.0	5.5	1.0	2.1	11.	24.
VA	66	52	0.3	21.	3.	4.	1.6	2.8	1.8	0.3	0.8	3.	7.
IL	100	77	0.3	80.	10.	11.	6.2	2.7	6.8	0.8	3.6	11.	29.
BR	71	62	0.3	30.	4.	5.	2.1	3.0	2.2	0.3	1.0	4.	11.
LE	78	62	0.3	27.	3.	4.	2.2	2.5	2.2	0.3	1.4	4.	9.
OX	93	73	0.3	21.	5.	5.	3.5	2.0	4.5	0.5	1.6	7.	14.
OR	64	60	0.3	22.	4.	3.	2.7	2.5	2.7	0.3	1.7	5.	9.

INDIVIDUAL DATA FOR SPECIES MG

SITE	NTOT NEDT		MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	85	0.2	11.	1.	1.	0.4	2.4	0.2	0.2	0.2	1.	2.
IT	82	80	0.2	13.	2.	2.	0.9	3.0	0.8	0.2	0.2	2.	6.
PS	98	80	0.2	7.	2.	2.	1.2	2.9	1.3	0.2	0.5	2.	6.
VA	66	52	0.2	34.	1.	5.	0.6	3.0	0.5	0.2	0.2	1.	3.
IL	100	77	0.2	11.	2.	2.	1.5	2.5	1.7	0.2	1.0	3.	5.
BR	71	62	0.2	16.	4.	3.	2.3	3.2	2.0	0.2	1.1	6.	9.
LE	78	62	0.2	37.	5.	6.	3.1	2.8	3.2	0.6	1.5	6.	14.
OX	93	73	0.2	4.	1.	1.	0.9	2.6	1.1	0.2	0.4	2.	4.
OR	64	60	0.2	5.	1.	1.	0.7	2.3	0.7	0.2	0.4	1.	2.

INDIVIDUAL DATA FOR SPECIES CSUM

SITE	NTOT NEDT		MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	107	85	13.9	415.	83.	63.	65.3	2.0	65.7	17.0	37.6	105.	188.
IT	82	80	17.8	620.	135.	105.	106.6	2.0	105.7	27.1	72.0	161.	342.
PS	98	80	18.6	366.	147.	83.	123.4	1.9	124.6	33.0	83.5	196.	304.
VA	66	52	14.6	812.	115.	120.	86.7	2.0	85.6	24.8	51.7	113.	261.
IL	100	77	30.8	371.	123.	73.	104.7	1.8	104.0	38.8	68.6	145.	259.
BR	71	62	4.0	369.	135.	93.	99.3	2.5	118.9	17.1	59.3	102.	312.
LE	78	61	8.7	522.	132.	97.	105.0	2.0	110.7	28.4	74.6	150.	250.
OX	93	73	28.6	374.	114.	78.	94.2	1.8	94.2	40.2	54.5	130.	262.
OR	64	60	14.8	233.	87.	48.	75.0	1.7	74.4	25.3	53.6	105.	187.

TABLE 26. General Statistics for 1983

INDIVIDUAL DATA FOR SPECIES S										CENTILE VALUES			
SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	1.7	130.	27.	25.	18.2	2.5	20.5	3.4	11.0	30.	74.
IT	77	74	3.6	190.	34.	33.	23.8	2.4	23.5	5.4	14.0	41.	100.
PS	87	66	1.9	150.	35.	32.	23.7	2.5	24.0	4.8	12.0	47.	110.
VA	61	53	4.3	100.	31.	26.	22.4	2.3	21.0	4.8	13.0	43.	86.
IL	94	60	7.8	87.	33.	19.	28.4	1.7	29.0	12.0	19.0	42.	71.
BR	78	66	4.5	130.	29.	29.	19.9	2.3	19.0	5.2	11.0	32.	68.
LE	75	65	5.0	120.	28.	24.	20.9	2.1	20.0	5.9	12.0	33.	67.
OX	93	66	12.0	120.	36.	25.	29.6	1.8	20.0	13.0	18.0	40.	92.
OR	60	60	6.0	250.	38.	43.	26.3	2.2	27.5	7.1	15.0	35.	110.

INDIVIDUAL DATA FOR SPECIES NO3										CENTILE VALUES			
SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	2.9	260.	30.	35.	20.1	2.4	20.0	5.1	11.0	31.	79.
IT	77	74	6.1	260.	40.	36.	31.0	2.0	29.0	7.9	20.0	47.	94.
PS	87	66	3.9	100.	36.	24.	28.2	2.1	30.5	6.1	20.0	45.	91.
VA	61	53	7.1	95.	29.	23.	22.7	2.0	22.0	7.4	13.0	39.	80.
IL	94	60	11.0	150.	39.	27.	32.2	1.9	30.0	12.0	19.0	49.	90.
BR	78	66	2.3	280.	30.	41.	16.7	3.0	20.5	2.5	0.0	35.	73.
LE	75	65	1.5	120.	27.	27.	16.2	3.0	16.0	2.7	6.2	40.	76.
OX	93	66	6.4	140.	32.	25.	25.8	1.9	25.0	8.0	15.0	35.	80.
OR	60	60	3.1	130.	28.	25.	19.3	2.4	19.0	5.0	9.4	34.	77.

INDIVIDUAL DATA FOR SPECIES CL										CENTILE VALUES			
SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	0.3	52.	5.	7.	3.2	2.7	3.0	0.5	1.9	5.	16.
IT	77	74	0.5	35.	7.	8.	4.5	2.6	4.8	1.0	2.1	8.	27.
PS	87	66	1.0	33.	8.	7.	5.8	2.2	5.6	1.0	3.4	9.	18.
VA	61	53	1.0	46.	9.	9.	6.0	2.4	5.6	1.4	3.9	9.	25.
IL	94	61	1.0	30.	6.	5.	5.0	2.0	4.6	1.3	3.4	7.	16.
BR	78	67	2.2	190.	39.	39.	24.9	2.7	27.0	4.6	12.0	51.	100.
LE	75	65	3.4	1200.	94.	159.	49.0	3.1	47.0	9.0	20.0	120.	240.
OX	93	66	1.0	17.	7.	4.	5.7	1.9	6.1	1.5	4.1	8.	12.
OR	60	60	1.0	21.	7.	4.	5.6	1.9	6.0	1.8	3.3	8.	17.

MAP36 PRECIPITATION CHEMISTRY NETWORK
GENERAL STATISTICS FOR 1 YEARS, BEGINNING WITH 1 JAN 1983 -- PCL DATA BASE

INDIVIDUAL DATA FOR SPECIES S-IV

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	119	104	0.1	2.	0.	0.	0.1	2.0	0.1	0.1	0.1	0.	1.
IT	77	57	0.1	5.	1.	1.	0.2	3.6	0.1	0.1	0.1	1.	2.
PS	87	68	0.1	6.	1.	2.	0.2	4.0	0.1	0.1	0.1	0.	5.
VA	61	56	0.1	16.	1.	3.	0.2	3.7	0.1	0.1	0.1	0.	5.
IL	94	52	0.1	11.	1.	2.	0.4	4.6	0.2	0.1	0.1	1.	6.
BR	78	68	0.1	5.	0.	1.	0.1	2.0	0.1	0.1	0.1	0.	0.
LE	75	62	0.1	10.	0.	1.	0.1	2.9	0.1	0.1	0.1	0.	2.
OX	93	75	0.1	19.	2.	3.	0.5	5.8	0.3	0.1	0.1	2.	7.
OR	60	60	0.1	11.	1.	2.	0.3	4.9	0.1	0.1	0.1	1.	7.

INDIVIDUAL DATA FOR SPECIES COND

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	119	103	3.2	160.	28.	25.	20.6	2.2	22.0	5.9	11.0	34.	65.
IT	77	73	7.2	170.	38.	31.	30.1	2.0	28.0	10.0	19.0	45.	90.
PS	87	64	5.7	150.	40.	31.	30.3	2.1	29.5	7.0	18.0	49.	97.
VA	61	53	9.2	110.	34.	25.	26.7	2.0	24.0	10.0	15.0	45.	88.
IL	94	58	8.9	75.	31.	15.	28.0	1.6	27.0	10.0	20.0	34.	69.
BR	78	66	6.4	170.	35.	30.	26.3	2.1	26.5	8.2	15.0	39.	73.
LE	75	65	6.3	130.	30.	27.	30.4	2.0	30.0	9.1	20.0	41.	76.
OX	93	66	13.0	110.	33.	20.	28.7	1.7	26.0	14.0	20.0	36.	71.
OR	60	59	7.1	210.	34.	36.	25.1	2.1	25.0	7.3	14.0	32.	100.

INDIVIDUAL DATA FOR SPECIES ASUM

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	CENTILE VALUES			
										05	25	75	95
WH	119	104	9.5	502.	89.	83.	63.6	2.3	68.6	17.6	36.3	100.	214.
IT	77	74	18.2	523.	116.	99.	88.8	2.1	82.0	25.5	56.5	134.	292.
PS	87	66	15.3	404.	114.	86.	87.1	2.1	94.1	17.8	48.0	140.	294.
VA	61	53	19.7	290.	100.	69.	79.9	2.0	75.6	26.0	49.5	135.	249.
IL	94	60	30.6	202.	112.	62.	97.0	1.7	94.5	43.3	61.3	145.	245.
BR	78	66	29.8	625.	127.	104.	99.4	2.0	93.7	32.1	65.2	146.	298.
LE	75	65	23.4	1314.	177.	174.	135.7	2.0	150.1	30.6	84.2	194.	296.
OX	93	66	34.0	363.	111.	75.	93.1	1.0	89.3	37.6	62.3	125.	293.
OR	60	60	20.1	652.	111.	112.	80.4	2.1	78.1	23.1	48.5	111.	292.

MAP3S PRECIPITATION CHEMISTRY NETWORK
GENERAL STATISTICS FOR 1 YEARS, BEGINNING WITH 1 JAN 1983 -- PCL DATA BASE

INDIVIDUAL DATA FOR SPECIES H

CENTILE VALUES

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	103	0.5	295.	55.	47.	38.8	2.6	42.7	10.2	21.9	71.	135.
IT	77	74	17.0	389.	77.	63.	60.9	1.9	56.2	21.4	39.8	91.	186.
PS	87	66	10.7	309.	88.	68.	67.5	2.1	66.1	16.2	41.7	100.	209.
VA	61	53	6.8	257.	73.	58.	54.1	2.2	50.1	14.5	28.8	105.	178.
IL	94	61	0.3	195.	57.	37.	44.0	2.5	49.0	12.3	34.7	60.	132.
BR	78	67	3.1	295.	65.	63.	42.0	2.7	39.8	8.7	17.8	83.	178.
LE	75	65	5.1	229.	57.	52.	36.2	2.7	38.0	6.5	13.8	79.	138.
OX	93	67	0.1	214.	62.	44.	43.4	3.4	55.0	6.9	30.9	71.	151.
OR	60	60	1.6	390.	67.	72.	45.4	2.5	44.2	10.5	26.9	68.	214.

INDIVIDUAL DATA FOR SPECIES NH4

CENTILE VALUES

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	0.3	160.	19.	26.	7.7	4.4	9.9	0.6	2.7	22.	68.
IT	77	74	0.9	120.	21.	24.	11.6	3.2	12.5	1.2	4.4	27.	72.
PS	87	66	0.3	63.	15.	16.	9.0	3.1	9.7	1.1	4.2	20.	52.
VA	61	53	0.3	57.	16.	14.	10.0	3.1	12.0	0.6	4.7	21.	44.
IL	94	61	0.7	100.	23.	20.	16.5	2.5	18.0	4.0	8.6	27.	55.
BR	78	67	0.3	150.	17.	30.	6.2	4.1	6.2	0.6	2.2	13.	72.
LE	75	65	0.5	70.	14.	15.	7.1	3.6	8.3	0.9	2.7	19.	41.
OX	93	66	0.3	120.	23.	23.	14.7	2.9	16.5	2.6	7.4	34.	63.
OR	60	60	0.3	85.	16.	18.	6.8	4.6	9.0	0.3	2.2	22.	42.

INDIVIDUAL DATA FOR SPECIES NA

CENTILE VALUES

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	0.2	51.	4.	7.	1.4	3.9	1.3	0.2	0.5	4.	17.
IT	77	74	0.2	35.	3.	7.	1.2	3.7	1.0	0.2	0.5	2.	16.
PS	87	66	0.2	26.	3.	4.	1.8	3.2	1.9	0.2	0.8	4.	9.
VA	61	53	0.2	40.	6.	8.	3.1	3.6	2.5	0.2	1.3	7.	21.
IL	94	61	0.3	31.	4.	6.	2.4	2.5	2.0	0.8	1.3	4.	12.
BR	78	67	1.5	170.	36.	36.	21.5	3.0	23.0	2.5	11.0	47.	110.
LE	75	65	1.8	890.	79.	121.	30.3	3.6	40.0	3.7	15.0	100.	190.
OX	93	66	0.2	34.	4.	5.	2.3	3.0	2.5	0.3	1.0	5.	13.
OR	60	60	0.3	49.	6.	9.	2.7	3.1	2.5	0.6	1.2	5.	21.

MAP3S PRECIPITATION CHEMISTRY NETWORK
GENERAL STATISTICS FOR 1 YEARS, BEGINNING WITH 1 JAN 1983 -- PCL DATA BASE

INDIVIDUAL DATA FOR SPECIES CA

CENTILE VALUES

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	0.1	59.	4.	8.	1.7	3.9	1.7	0.1	0.8	3.	16.
IT	77	74	0.1	58.	6.	9.	2.3	4.1	2.4	0.2	1.0	5.	22.
PS	87	66	0.3	13.	4.	4.	2.4	2.8	2.5	0.3	1.0	5.	11.
VA	61	53	0.1	10.	3.	3.	1.8	3.1	2.1	0.3	0.8	5.	8.
IL	94	61	0.3	130.	14.	21.	6.3	3.5	6.7	0.9	2.2	14.	39.
BR	78	67	0.3	26.	4.	5.	2.1	2.6	1.8	0.5	1.0	3.	13.
LE	75	65	0.3	20.	4.	4.	2.8	2.4	3.3	0.6	1.7	5.	10.
OX	93	66	0.2	100.	8.	13.	4.0	3.1	3.7	0.6	1.7	8.	18.
OR	60	60	1.0	46.	7.	8.	4.7	2.5	4.7	1.1	2.7	8.	23.

INDIVIDUAL DATA FOR SPECIES MG

CENTILE VALUES

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	104	0.1	13.	1.	2.	0.4	3.3	0.2	0.1	0.2	1.	4.
IT	77	74	0.1	10.	1.	2.	0.6	3.8	0.4	0.1	0.2	2.	7.
PS	87	66	0.1	4.	1.	1.	0.5	3.0	0.4	0.1	0.2	1.	3.
VA	61	53	0.1	5.	1.	1.	0.6	2.8	0.6	0.1	0.2	1.	3.
IL	94	61	0.1	12.	3.	3.	1.4	3.1	1.5	0.2	0.6	2.	10.
BR	78	67	0.3	17.	4.	4.	2.6	2.6	2.6	0.6	1.3	5.	10.
LE	75	65	0.2	71.	0.	10.	4.2	3.4	4.6	0.5	1.6	10.	21.
OX	93	66	0.1	32.	2.	4.	0.7	3.5	0.6	0.1	0.2	2.	4.
OR	60	60	0.1	6.	1.	1.	0.8	2.8	0.8	0.1	0.4	1.	5.

INDIVIDUAL DATA FOR SPECIES CSUM

CENTILE VALUES

SITE	NTOT	NEDT	MIN	MAX	A-MEAN	A-SD	G-MEAN	G-SD	MED	05	25	75	95
WH	119	100	9.3	442.	88.	82.	62.1	2.3	64.2	15.8	31.9	102.	300.
IT	77	74	19.6	501.	116.	95.	89.3	2.0	84.4	25.7	55.5	130.	292.
PS	87	61	16.4	391.	115.	90.	86.6	2.2	87.0	22.1	45.5	142.	289.
VA	61	52	24.2	297.	105.	73.	82.7	2.0	73.2	26.9	48.5	147.	253.
IL	94	55	20.9	336.	115.	72.	97.9	1.8	94.0	42.6	62.2	142.	252.
BR	78	67	26.6	577.	133.	100.	103.1	2.0	99.3	32.3	63.9	159.	341.
LE	75	65	20.1	1094.	174.	150.	135.5	2.0	145.0	28.1	80.7	211.	305.
OX	93	66	36.5	390.	110.	74.	92.5	1.7	86.6	40.0	62.7	122.	284.
OR	60	60	22.3	560.	106.	100.	79.0	2.1	78.6	23.3	45.7	111.	274.

TABLE 27. Precipitation Totals for 1982 and 1983

PRECIPITATION (CM)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	3.7	5.3	7.1	7.9	5.9	14.0	8.3	12.9	7.9	5.9	11.8	5.5	96.0
IT	7.0	9.1	6.7	7.5	5.8	20.4	6.6	4.7	9.2	2.1	9.7	5.7	94.5
PS	10.9	9.4	9.3	5.3	10.0	17.9	7.5	8.1	5.4	2.8	8.8	4.3	99.7
VA	9.2	13.9	9.3	7.4	4.2	---	15.0	12.6	6.9	4.9	5.3	9.0	97.7
IL	5.6	7.2	8.0	5.3	5.2	13.1	11.8	5.3	5.6	5.4	13.2	8.4	94.1
BR	14.8	9.6	7.8	15.0	4.6	23.7	4.8	9.0	3.6	5.5	9.8	4.0	112.9
LE	10.0	7.3	8.9	13.2	2.9	8.9	12.2	13.5	2.5	6.7	11.4	6.5	104.0
OX	7.8	11.4	13.0	5.9	14.0	16.2	5.8	4.6	4.5	2.2	14.7	10.8	110.9
OR	18.7	12.4	15.5	9.9	5.0	9.1	10.5	21.1	11.4	6.2	17.5	19.0	155.2

PRECIPITATION (CM)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	4.9	4.5	5.8	15.7	15.1	15.0	4.4	18.0	6.4	10.1	19.1	16.1	136.7
IT	5.9	5.0	6.5	16.0	9.9	15.9	4.6	9.3	4.0	7.2	12.4	12.3	109.1
PS	4.1	5.5	11.0	13.9	16.6	13.5	4.4	4.2	5.6	10.5	12.2	13.8	115.2
VA	3.6	9.7	15.5	26.3	13.1	7.0	9.9	15.6	3.0	21.8	12.5	13.9	151.9
IL	4.4	2.4	5.0	13.1	12.9	8.0	3.4	12.1	1.7	16.0	10.8	9.1	99.0
BR	9.5	11.0	23.2	29.3	11.0	7.6	11.2	10.7	4.9	11.3	22.6	14.0	167.1
LE	6.4	7.7	16.0	23.2	11.1	8.6	4.8	25.2	15.1	14.0	13.6	11.9	157.6
OX	4.9	1.9	7.1	10.1	23.5	7.6	6.6	4.3	4.5	16.7	12.0	6.7	105.9
OR	4.5	11.6	6.3	17.6	17.9	7.5	3.4	4.6	5.4	12.4	14.7	10.5	124.5

TABLE 28. Monthly Total and Edited Number of Events for 1982 and 1983

SPECIES = S

TOTAL NUMBER OF EVENTS

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	7	6	11	9	6	9	7	10	10	7	12	13	107
IT	6	7	9	8	4	10	5	9	4	5	7	8	82
PS	8	7	8	9	7	13	6	8	7	6	8	11	98
VA	5	6	5	6	4	---	7	12	6	6	4	5	66
IL	7	6	16	10	5	12	8	6	9	5	8	8	100
BR	6	4	9	7	4	8	5	5	5	4	6	8	71
LE	7	10	6	8	8	7	7	8	3	4	5	5	78
OX	8	5	7	6	9	11	6	7	7	4	11	12	93
OR	4	5	5	5	4	10	4	7	5	4	5	6	64

SPECIES = S

NUMBER OF EVENTS
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	5	5	9	6	6	8	5	9	8	7	10	8	86
IT	6	6	9	8	4	10	5	9	4	5	7	8	81
PS	8	7	8	5	6	13	5	5	6	5	7	5	80
VA	4	6	5	4	3	---	7	6	4	5	4	4	52
IL	6	4	9	7	4	11	6	6	5	4	8	7	77
BR	4	4	7	7	4	7	3	5	4	4	5	7	61
LE	6	9	5	7	6	5	5	5	2	3	4	5	62
OX	7	4	7	4	6	9	6	7	3	3	9	8	73
OR	3	5	4	5	4	10	3	6	5	4	5	6	60

SPECIES = S

TOTAL NUMBER OF EVENTS

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	9	8	8	15	17	10	8	12	9	9	7	7	119
IT	6	5	6	8	8	6	5	9	4	7	8	5	77
PS	4	5	5	8	8	9	5	8	6	9	11	9	87
VA	4	5	5	5	6	2	8	9	3	6	5	3	61
IL	7	7	9	11	8	7	3	7	7	8	9	11	94
BR	6	6	10	9	9	6	5	4	5	5	6	7	78
LE	6	6	7	8	6	6	5	7	3	7	7	7	75
OX	6	5	9	12	13	7	7	8	5	7	7	7	93
OR	6	5	5	6	8	5	5	4	3	3	5	5	60

SPECIES = S

NUMBER OF EVENTS
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	5	6	7	14	16	9	8	10	7	8	7	7	104
IT	6	5	5	8	8	6	5	8	4	6	8	5	74
PS	4	4	5	6	7	5	4	3	6	7	8	7	66
VA	2	5	4	4	5	2	7	8	3	5	5	3	53
IL	4	2	5	7	6	6	1	6	3	6	6	8	60
BR	5	4	8	8	7	4	5	4	4	4	6	7	66
LE	5	5	6	7	6	6	4	6	3	5	5	7	65
OX	3	2	7	9	10	6	4	4	4	5	6	6	66
OR	6	5	5	6	8	5	5	4	3	3	5	5	60

TABLE 29. Monthly Weighted Averages for 1982

SPECIES = S

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.854	1.000	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.971
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.962	1.000	0.978	1.000	0.996	1.000	0.994
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = S

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	8.1	7.0	10.9	20.0	33.8	20.3	14.6	27.5	23.3	26.3	16.2	12.9	20.1
IT	8.4	19.6	29.3	24.4	56.9	28.7	39.2	79.8	23.8	29.8	21.4	14.4	29.0
PS	9.8	27.6	29.6	32.4	54.6	47.6	60.8	50.7	41.8	37.2	24.1	14.7	36.8
VA	IPC	15.3	30.2	23.9	45.6	---	38.6	55.3	27.4	47.1	20.7	10.6	29.5
IL	23.3	27.0	41.3	31.6	36.2	42.4	32.0	67.0	34.2	24.6	24.4	9.1	32.2
BR	11.5	20.4	31.7	18.3	47.2	15.2	37.2	32.0	45.5	20.0	7.7	11.5	20.7
LE	13.1	17.1	20.1	16.5	46.2	25.2	30.3	13.9	29.0	24.1	13.3	15.3	20.6
OX	14.8	24.8	35.2	29.1	47.9	36.9	40.4	72.9	38.3	25.9	24.6	15.5	33.2
OR	26.9	21.1	23.6	24.4	31.7	29.9	IPC	IPC	30.3	23.2	22.3	11.9	25.1

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = NO3

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.854	1.000	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.971
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.994	0.996	0.997	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = NO3

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	21.4	16.9	21.4	18.5	20.5	18.3	18.6	21.3	17.1	18.4	19.4	28.5	19.0
IT	21.7	34.8	45.5	29.9	43.4	23.0	26.7	46.3	26.6	32.1	30.4	33.4	30.8
PS	20.5	41.6	50.7	38.5	42.8	35.8	37.6	25.1	42.7	46.5	28.8	24.4	35.9
VA	IPC	18.5	36.7	21.4	37.1	---	25.8	37.6	21.2	38.0	21.0	17.6	26.2
IL	20.9	27.3	40.7	25.1	24.6	33.5	21.5	43.3	24.8	21.4	18.3	12.4	25.7
BR	5.0	16.7	24.0	17.4	32.2	9.6	36.8	23.2	39.9	21.7	4.2	15.2	16.1
LE	13.0	22.9	14.4	11.9	43.3	23.9	25.8	9.5	24.0	10.1	8.1	13.7	16.0
OX	14.0	16.0	32.6	19.4	22.2	26.2	31.8	45.4	39.7	17.8	13.8	12.2	22.7
OR	14.0	10.9	12.5	15.2	22.5	25.9	IPC	IPC	23.6	15.9	12.0	9.2	16.1

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = CL

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.984	0.977	0.854	1.000	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.971
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.986	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = CL

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	2.1	2.8	2.6	3.6	3.4	3.1	2.2	2.3	1.5	2.5	3.0	4.0	2.7
IT	5.4	6.8	6.3	5.7	3.7	4.0	3.7	4.5	2.9	7.8	7.3	8.6	5.2
PS	6.8	8.1	6.4	9.0	5.4	7.7	4.5	3.6	4.4	10.9	12.2	7.7	7.0
VA	IPC	7.5	5.0	10.1	6.7	---	7.0	3.3	3.8	5.3	35.5	10.6	8.2
IL	4.1	3.5	6.6	7.0	5.2	5.0	6.2	6.7	3.1	5.1	5.3	12.2	5.9
BR	53.6	77.2	20.6	47.5	9.8	8.9	9.9	20.3	57.7	81.5	51.5	63.8	38.6
LE	56.6	132.3	54.2	37.9	22.5	61.1	25.0	11.3	114.8	498.6	98.2	34.9	82.5
OX	3.9	5.2	7.4	6.6	5.2	4.0	5.9	6.0	3.7	6.9	6.2	5.3	5.5
OR	11.1	4.1	5.7	9.9	5.4	5.3	IPC	IPC	3.9	5.8	9.6	7.3	7.0

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = S-IV

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.864	1.000	1.000	0.993	1.000	0.990	0.958	1.000	0.938	0.973
IT	0.993	0.992	0.992	0.979	0.986	1.000	1.000	0.896	1.000	1.000	1.000	0.854	0.982
PS	1.000	1.000	1.000	0.956	0.992	1.000	1.000	0.851	1.000	0.962	1.000	0.988	0.983
VA	0.746	1.000	1.000	0.962	1.000	---	0.977	0.907	0.913	0.869	1.000	0.980	0.954
IL	0.000	0.968	0.946	0.837	0.996	0.884	0.934	1.000	0.603	0.045	0.989	0.985	0.870
BR	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	0.978	1.000	0.996	1.000	0.998
LE	0.988	0.993	0.994	1.000	0.947	1.000	0.987	0.993	0.981	0.995	0.993	1.000	0.992
OK	0.990	0.996	1.000	0.863	0.993	0.995	0.978	0.939	0.899	0.816	0.999	0.989	0.977
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = S-IV

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.6	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	1.2	0.3
IT	1.3	3.6	0.8	0.5	0.1	0.9	0.1	0.1	0.2	0.3	2.2	0.5	1.0
PS	2.3	4.5	1.0	0.9	0.1	0.1	0.3	0.4	0.3	1.1	2.0	2.4	1.3
VA	IPC	1.1	4.4	0.1	0.2	---	0.1	0.1	0.1	0.1	0.1	0.1	0.9
IL	IPC	2.9	0.8	1.0	0.1	0.1	0.1	0.1	IPC	IPC	1.7	1.7	0.9
BR	0.5	1.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.7	0.3	0.3
LE	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	1.8	4.5	0.6
OK	5.4	8.2	2.4	0.1	0.1	0.1	0.6	0.1	4.3	2.2	6.3	6.6	3.3
OR	1.0	0.6	1.2	0.3	0.1	0.1	IPC	IPC	0.1	2.5	0.4	1.4	0.7

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = COND

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.959	0.854	0.983	0.992	0.993	0.980	0.990	0.986	0.993	0.926	0.966
IT	1.000	0.992	0.992	1.000	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.998
PS	1.000	1.000	1.000	0.935	0.992	0.981	1.000	0.851	1.000	0.962	0.990	0.948	0.976
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.980	0.996	0.912	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.988
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = COND

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	15.1	14.3	22.9	18.5	26.1	19.0	13.7	25.8	20.3	23.3	17.7	19.1	20.0
IT	14.6	27.4	34.4	23.8	54.4	26.0	35.7	64.6	24.5	26.7	24.1	21.7	29.4
PS	16.0	33.6	33.2	27.3	44.1	39.4	55.8	46.0	39.4	36.5	25.6	19.9	35.1
VA	IPC	18.2	34.4	21.9	40.9	---	35.4	50.8	24.6	41.9	24.9	14.3	29.7
IL	26.4	30.1	34.6	20.0	22.9	35.0	20.2	40.0	27.0	18.2	18.9	15.0	26.9
BR	17.2	31.2	31.4	22.0	42.3	12.9	40.7	31.7	45.8	26.6	10.7	18.2	23.1
LE	18.3	34.0	21.5	15.9	44.7	27.0	36.0	15.6	35.3	55.9	21.1	19.7	25.7
OX	10.8	22.2	29.9	19.8	26.3	30.4	44.7	53.2	35.1	19.3	19.1	16.0	26.4
OR	24.8	22.0	20.9	20.9	25.8	26.8	IPC	IPC	25.7	22.6	22.3	13.1	23.4

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = ASUM

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.854	1.000	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.971
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.986	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.962	1.000	0.978	1.000	0.996	1.000	0.994
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = ASUM

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	39.9	32.7	61.4	62.0	91.5	62.0	42.9	78.6	65.3	73.5	54.9	58.3	61.9
IT	44.0	81.0	110.7	84.6	161.0	84.5	100.8	210.5	77.1	99.4	80.6	70.9	94.0
PS	46.3	105.0	116.6	112.6	157.4	138.9	164.8	132.2	130.9	131.0	89.3	61.6	117.0
VA	IPC	56.7	102.2	79.7	135.0	---	110.0	151.3	79.9	137.5	97.8	49.3	93.5
IL	71.8	86.6	130.2	95.5	102.4	123.5	91.7	185.5	96.4	75.7	73.2	42.7	96.3
BR	81.5	134.7	100.2	101.7	136.6	48.9	119.6	107.6	100.7	143.2	71.0	101.9	96.0
LE	95.9	189.5	108.8	83.0	158.4	135.4	127.4	40.6	196.0	564.0	133.1	79.1	140.3
OX	47.6	70.9	110.0	84.3	123.2	104.0	134.4	197.3	120.0	76.5	69.2	48.5	94.5
OR	80.0	57.3	65.5	74.1	91.4	91.2	IPC	IPC	80.0	68.1	66.2	40.2	73.4

MAP35 PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = H

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.984	0.977	0.854	1.000	1.000	0.993	1.000	0.990	1.000	0.993	0.926	0.973
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.986	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.988	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.989
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = H

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	32.1	30.8	50.0	39.9	50.9	37.0	23.5	47.7	47.4	51.8	42.2	53.0	42.2
IT	29.6	59.0	69.6	46.2	111.9	53.9	77.5	138.5	58.0	56.2	60.6	61.7	64.1
PS	27.9	64.7	61.6	40.3	75.6	81.6	105.7	93.2	85.4	76.1	53.3	57.1	68.5
VA	IPC	38.4	70.2	42.8	78.6	---	64.2	110.7	54.6	96.4	44.7	32.5	60.7
IL	56.6	63.0	61.2	24.3	38.3	60.2	51.9	85.0	59.0	36.0	35.4	35.3	50.2
BR	17.5	44.3	59.1	31.3	84.4	26.6	78.8	62.6	89.2	40.5	12.2	27.5	38.7
LE	24.1	39.8	29.0	18.4	84.3	41.6	61.7	31.9	56.9	18.4	23.1	37.6	34.5
OX	38.4	47.1	62.8	37.6	45.5	57.2	85.5	104.6	76.8	42.3	42.5	40.8	53.5
OR	44.2	44.6	41.6	38.2	53.3	49.0	IPC	IPC	59.4	54.7	47.3	30.4	47.8

MAP36 PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = NH4

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.984	0.977	0.854	1.000	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.971
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = NH4

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	25.2	1.4	10.1	7.9	18.8	11.9	7.4	14.1	12.0	14.3	6.9	6.2	11.0
IT	20.9	9.5	16.9	15.1	25.5	13.2	13.1	39.8	9.0	21.5	10.4	9.6	15.1
PS	4.0	13.2	25.8	18.4	39.9	21.1	25.8	19.5	16.6	22.1	14.7	6.9	19.5
VA	IPC	4.8	19.8	11.9	31.0	---	18.4	30.1	17.5	22.0	6.4	5.2	15.2
IL	7.2	10.0	38.3	20.7	20.0	28.6	11.1	24.2	17.1	15.1	22.4	6.0	19.5
BR	2.3	3.3	15.1	6.4	14.6	5.8	15.8	14.3	22.1	8.5	1.7	3.2	7.5
LE	2.8	7.2	8.6	12.2	31.6	12.7	22.6	8.3	9.6	2.9	4.6	6.8	10.1
OX	4.5	6.6	23.3	8.6	15.1	22.0	18.9	35.2	30.6	17.8	11.3	8.2	15.7
OR	6.4	5.3	9.5	6.1	16.6	19.5	IPC	IPC	17.9	5.9	3.8	3.7	9.1

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = NA

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.854	1.000	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.971
IT	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = NA

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.9	1.8	1.6	2.6	2.5	1.9	2.6	1.4	1.5	1.1	2.3	1.9	1.9
IT	2.6	1.9	3.2	2.6	1.1	1.5	1.8	1.5	0.7	7.5	4.2	4.5	2.3
PS	3.8	4.3	4.1	4.7	2.4	6.1	2.2	7.6	3.4	12.0	10.8	5.2	5.2
VA	IPC	2.0	3.9	7.5	4.6	---	2.4	1.5	3.1	3.6	27.7	8.8	5.1
IL	2.0	2.2	4.1	4.0	2.8	3.6	3.7	3.5	1.4	3.1	5.0	3.7	3.5
BR	48.0	76.6	17.2	43.1	6.9	6.4	8.4	19.8	55.5	73.1	45.2	58.3	35.0
LE	51.8	108.2	46.0	33.0	22.3	55.7	19.8	8.4	99.5	321.7	81.1	29.0	63.5
OX	2.0	2.7	5.0	4.4	2.8	2.4	5.0	6.7	4.4	7.8	5.0	5.4	4.1
OR	3.5	2.4	4.4	8.8	5.0	5.3	IPC	IPC	3.1	2.9	6.2	6.3	4.7

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = CA

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.854	0.983	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.970
IT	1.000	0.992	1.000	1.000	0.488	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.968
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.986	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.988	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = CA

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.7	0.7	1.9	1.9	3.7	1.0	1.5	2.7	1.2	1.4	1.3	1.0	1.6
IT	1.9	2.0	7.5	6.3	IPC	1.3	2.2	4.8	1.1	5.2	1.8	1.8	2.8
PS	2.4	3.6	7.1	20.7	7.3	3.3	3.4	3.6	7.1	7.2	3.3	2.0	5.2
VA	IPC	0.9	2.5	3.5	3.0	---	1.1	2.1	0.5	1.8	2.7	0.7	1.7
IL	2.7	3.2	6.0	17.1	7.0	7.5	4.8	10.8	3.7	7.2	3.4	1.1	5.7
BR	1.4	2.9	3.9	3.6	2.4	0.7	1.3	1.3	2.8	2.6	1.9	2.6	2.1
LE	1.6	3.3	2.3	5.0	3.5	3.1	1.7	0.8	1.0	7.3	1.8	2.4	2.8
OX	1.1	1.7	7.5	5.6	2.6	3.7	4.9	9.7	3.4	2.3	2.2	1.3	3.5
OR	1.8	2.3	3.6	5.5	4.7	4.2	IPC	IPC	2.2	1.9	1.9	1.0	2.6

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = MG

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.904	0.977	0.854	0.983	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.970
IT	1.000	0.992	1.000	1.000	0.488	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.968
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.940	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.994	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.990
OX	0.998	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = MG

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.2	0.3	0.5	0.4	1.0	0.3	0.4	0.7	0.3	0.3	0.3	0.3	0.4
IT	0.4	0.5	2.0	1.3	IPC	0.4	0.5	1.3	0.4	1.4	0.5	0.5	0.7
PS	0.5	0.9	1.6	4.0	1.4	0.6	0.7	0.8	1.2	1.6	1.4	0.6	1.1
VA	IPC	0.7	0.6	1.0	0.9	---	0.3	0.4	0.3	0.6	2.6	0.7	0.7
IL	0.8	0.7	1.6	2.7	1.8	1.2	1.4	2.8	1.0	1.2	0.8	0.6	1.3
BR	4.6	0.6	2.6	4.8	1.2	0.7	1.0	2.0	6.0	6.9	4.1	5.4	3.7
LE	4.8	10.9	5.1	4.2	2.4	5.4	1.7	0.9	9.7	30.4	7.1	2.9	6.2
OX	0.3	0.4	1.6	1.0	0.6	0.9	1.1	1.9	0.8	0.7	0.7	0.3	0.8
OR	0.6	0.4	0.9	1.5	1.1	0.7	IPC	IPC	0.4	0.4	0.8	0.6	0.7

MAP35 PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1982 -- PCL DATA BASE

SPECIES = CSUM

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.973	0.984	0.977	0.854	0.983	1.000	0.993	0.980	0.990	1.000	0.993	0.926	0.970
IT	1.000	0.992	1.000	1.000	0.488	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.968
PS	1.000	1.000	1.000	0.935	0.992	1.000	1.000	0.851	1.000	0.962	0.990	0.948	0.979
VA	0.746	1.000	1.000	0.962	1.000	---	1.000	0.987	0.970	1.000	1.000	0.988	0.968
IL	0.906	0.968	0.958	0.990	0.996	0.997	0.984	1.000	0.984	0.990	1.000	0.999	0.983
BR	0.987	1.000	0.979	1.000	1.000	0.996	0.987	1.000	0.978	1.000	0.996	1.000	0.995
LE	0.999	0.993	0.980	0.996	0.947	0.991	0.977	0.987	0.981	0.995	0.993	1.000	0.989
OX	0.990	0.996	1.000	0.863	0.993	0.990	1.000	1.000	0.899	1.000	0.989	0.980	0.982
OR	0.987	1.000	0.984	1.000	1.000	1.000	0.799	0.596	1.000	1.000	1.000	1.000	0.929

SPECIES = CSUM

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	59.5	35.2	66.5	54.6	82.7	53.2	36.8	70.7	63.3	71.0	54.3	63.1	59.0
IT	57.2	75.3	109.4	79.2	IPC	71.8	97.6	191.9	69.8	98.3	79.5	80.3	86.6
PS	41.8	91.6	109.6	114.6	135.6	110.3	143.5	128.9	122.5	127.8	88.2	74.1	106.6
VA	IPC	48.1	100.2	71.8	122.8	---	87.5	147.0	76.4	126.4	89.7	49.1	85.6
IL	73.8	82.8	119.7	97.4	78.9	110.6	79.0	139.9	86.9	70.9	71.6	48.2	87.5
BR	80.5	147.6	105.1	98.6	113.6	41.1	107.7	103.2	184.4	142.3	71.2	105.8	92.9
LE	92.5	105.8	100.2	83.8	150.5	128.6	113.5	51.1	191.4	421.4	128.4	84.4	127.5
OX	47.2	60.5	110.1	63.5	70.1	91.0	121.6	169.8	119.9	73.9	66.0	57.4	82.2
OR	59.5	57.8	65.3	67.9	87.9	84.1	IPC	IPC	85.7	67.8	62.3	43.1	68.4

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = S

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.645	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.900	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = S

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	19.1	8.5	20.4	21.8	44.0	28.2	26.6	14.7	19.6	8.1	6.2	19.9
IT	10.3	14.4	IPC	21.0	31.5	71.3	25.4	51.1	22.5	19.9	13.5	5.0	28.7
PS	20.5	12.2	19.8	25.4	33.4	50.5	69.1	108.3	46.3	16.0	14.3	9.7	29.6
VA	IPC	18.0	16.1	18.5	22.7	25.6	21.6	65.3	32.2	IPC	10.6	15.4	23.1
IL	20.4	17.6	23.0	IPC	24.6	35.6	IPC	IPC	46.2	19.5	18.2	19.6	25.6
BR	11.3	IPC	14.9	13.8	19.9	36.6	35.2	36.9	24.2	13.3	9.9	12.9	17.9
LE	10.4	22.0	18.3	15.1	26.1	30.5	62.4	41.1	41.4	11.7	15.9	13.6	25.0
OX	18.1	25.2	31.6	29.2	27.2	40.2	IPC	70.5	23.6	16.1	17.0	25.3	26.9
OR	29.3	24.6	15.9	15.5	25.5	37.0	71.6	60.5	20.7	9.7	14.3	14.8	22.2

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = NO3

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.980	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.645	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.908	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OK	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = NO3

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	43.3	10.0	18.4	19.5	27.7	24.6	16.8	15.0	19.9	8.6	13.1	18.0
IT	36.3	37.0	IPC	19.6	29.3	36.3	24.4	40.8	17.1	19.3	23.2	10.8	26.4
PS	53.7	23.5	17.2	26.4	27.8	32.6	35.3	65.9	41.3	17.3	24.2	15.0	27.2
VA	IPC	32.1	15.9	15.4	17.7	23.9	18.1	35.5	24.6	IPC	12.0	14.1	19.6
IL	24.9	26.1	26.6	IPC	18.8	32.9	IPC	IPC	49.0	14.1	18.1	21.0	24.0
BR	0.1	IPC	13.3	9.9	20.4	31.2	30.4	27.0	25.7	14.2	9.0	9.3	15.0
LE	15.9	6.5	15.6	13.0	21.6	27.3	61.3	22.0	30.4	4.8	11.3	9.5	17.9
OK	11.8	28.7	32.7	23.5	15.9	32.5	IPC	44.6	19.7	15.4	16.8	25.9	21.5
OR	19.7	11.0	15.5	10.4	19.4	27.7	47.2	36.2	13.8	7.3	11.7	0.6	15.2

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = CL

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.649	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = CL

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	9.8	5.2	6.5	3.4	2.5	11.6	1.6	2.8	2.9	1.2	2.4	3.4
IT	9.8	10.8	IPC	2.4	4.7	5.6	2.1	4.2	4.1	4.8	2.9	2.4	4.2
PS	10.5	6.6	4.5	4.9	7.2	3.8	6.3	8.3	6.6	4.2	5.2	4.8	5.6
VA	IPC	10.9	10.7	7.2	6.4	2.8	3.7	5.4	3.2	IPC	7.4	16.5	9.8
IL	8.3	2.7	3.1	IPC	3.5	3.3	IPC	IPC	6.6	1.8	6.6	3.8	4.1
BR	59.7	IPC	53.2	31.7	26.9	17.3	4.1	15.5	21.2	41.9	30.2	80.1	36.5
LE	68.8	383.8	141.4	68.4	39.7	25.5	33.9	14.6	42.9	117.8	88.8	185.6	89.5
OX	4.1	8.5	8.8	5.8	5.3	4.6	IPC	6.7	2.3	1.9	5.3	7.6	5.8
OR	8.7	4.6	6.2	2.9	9.4	5.2	7.6	9.8	3.7	2.5	4.6	4.6	5.3

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = S-IV

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	1.000	0.998	1.000	0.963	0.982	0.878	1.000	1.000	0.967
IT	0.739	0.991	0.649	1.000	1.000	0.986	0.921	0.981	0.864	0.966	1.000	0.996	0.950
PS	1.000	0.995	1.000	1.000	0.998	0.964	0.988	0.978	1.000	0.997	0.976	0.992	0.989
VA	0.623	1.000	1.000	1.000	0.992	1.000	1.000	1.000	1.000	0.707	1.000	1.000	0.948
IL	0.983	0.893	0.988	0.639	0.962	0.999	0.207	0.648	0.806	0.985	0.993	0.998	0.865
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	1.000	0.852	1.000	1.000	0.949
LE	0.992	0.696	0.998	0.999	1.000	1.000	1.000	0.981	1.000	0.986	0.989	1.000	0.979
OX	0.989	0.878	0.993	0.995	0.986	0.998	0.641	0.937	1.000	1.000	0.929	0.856	0.950
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = S-IV

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.3	0.2
IT	IPC	1.1	IPC	0.3	0.1	0.2	0.1	0.4	IPC	0.6	2.0	1.0	0.6
PS	2.8	1.3	1.0	1.8	0.1	0.1	0.1	0.1	0.1	0.1	2.9	0.5	0.9
VA	IPC	0.3	0.1	2.2	0.1	0.1	0.1	0.1	0.2	IPC	0.9	4.3	1.1
IL	1.5	6.6	1.5	IPC	0.1	0.1	IPC	IPC	0.1	3.0	2.6	4.8	1.9
BR	0.1	IPC	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.4	0.2
LE	0.9	IPC	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.1	0.3
OX	12.9	6.4	3.7	1.9	0.2	0.8	IPC	0.1	1.4	2.5	3.3	7.6	2.6
OR	1.1	7.0	0.2	1.5	0.1	0.1	0.1	0.1	0.1	0.1	0.9	3.3	1.5

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = COND

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	0.985	0.969	0.982	0.878	1.000	1.000	0.967
IT	1.000	1.000	0.690	1.000	1.000	1.000	0.992	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.964	0.922	0.974	0.997	0.987	0.992	0.984
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.980	0.645	0.962	0.999	0.207	0.648	0.934	0.999	0.993	0.990	0.871
BR	1.000	0.647	0.908	0.996	0.944	0.972	1.000	1.000	0.905	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.982	0.986	0.990	0.628	0.887	0.972	0.988	0.991	0.963	0.956
OR	1.000	1.000	0.980	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.999

SPECIES = COND

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	28.2	10.0	19.9	23.5	43.9	23.4	25.9	17.0	19.3	10.9	10.0	21.2
IT	19.7	25.2	IPC	22.8	33.6	65.9	26.1	53.2	24.5	23.3	20.7	9.5	31.5
PS	33.1	18.6	22.1	28.2	32.4	53.8	76.0	110.2	49.4	21.7	21.8	13.1	33.3
VA	IPC	26.0	18.6	19.4	21.0	27.8	23.0	61.5	33.7	IPC	14.0	17.5	24.9
IL	22.4	25.1	24.0	IPC	23.4	35.5	IPC	40.8	19.3	19.2	21.6	25.9	25.9
BR	15.9	IPC	21.0	17.8	25.7	41.6	40.1	39.7	32.9	21.9	14.8	21.6	23.2
LE	18.5	40.0	32.8	22.3	29.4	35.0	71.0	41.1	47.0	23.7	24.4	30.9	33.5
OX	23.2	29.5	32.9	28.0	22.5	36.8	IPC	56.2	24.6	20.2	21.9	26.5	26.3
OR	23.6	23.4	13.9	14.0	23.3	37.5	61.0	54.3	20.0	11.0	16.3	19.2	21.8

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = ASUM

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.645	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.908	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = ASUM

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	90.5	32.3	65.5	66.7	118.3	93.6	72.3	46.2	62.2	25.8	27.9	61.5
IT	65.9	75.9	IPC	63.7	97.8	184.7	77.4	147.5	66.3	63.3	53.3	24.0	88.2
PS	108.5	54.7	61.4	82.2	102.0	137.5	180.0	291.0	140.2	53.6	58.7	39.4	92.3
VA	IPC	79.1	59.8	59.8	69.6	78.3	65.3	171.9	92.5	IPC	40.9	61.3	75.1
IL	74.2	64.2	75.8	IPC	71.8	107.6	IPC	148.6	55.0	61.4	62.6	79.5	79.5
BR	90.4	IPC	96.6	69.3	87.8	121.8	105.3	116.5	95.5	82.8	59.1	115.6	87.5
LE	104.8	433.6	193.7	111.7	113.7	114.0	220.6	119.1	156.4	145.2	132.1	222.4	157.5
OX	52.2	87.9	104.3	88.6	75.8	117.9	IPC	192.7	68.9	49.6	56.2	84.3	80.7
OR	87.3	65.7	53.7	44.6	79.8	107.1	198.6	167.4	59.1	29.5	45.1	43.1	65.1

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = H

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	0.985	0.969	0.982	0.878	1.000	1.000	0.967
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.649	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.982	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.957
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = H

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	54.5	17.3	38.8	49.0	91.8	43.4	52.4	31.6	40.8	25.9	23.6	44.0
IT	45.7	48.7	IPC	47.4	70.0	142.9	45.4	100.5	49.3	52.3	48.5	23.4	66.9
PS	79.0	43.3	44.1	61.4	63.1	119.9	155.7	230.6	110.1	49.3	52.2	34.6	72.7
VA	IPC	55.0	34.6	39.0	37.1	57.3	57.1	130.0	69.3	IPC	29.7	39.4	51.5
IL	52.5	48.1	44.0	IPC	45.2	74.3	IPC	IPC	71.0	44.3	40.0	45.8	51.2
BR	20.2	IPC	27.5	26.8	47.8	84.5	97.0	84.6	63.0	35.1	24.6	26.3	40.4
LE	22.4	11.7	27.5	27.9	40.2	74.6	126.3	87.0	86.3	14.4	29.2	21.5	47.4
OX	48.9	63.8	57.1	48.5	40.0	77.0	IPC	116.3	46.1	46.7	48.5	60.4	52.6
OR	48.2	45.1	24.7	26.9	40.1	77.6	115.4	111.6	42.4	24.6	35.1	41.9	43.4

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = NH4

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.698	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.980	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.649	0.967	0.999	0.207	0.640	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	0.985	0.852	1.000	1.000	0.948	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.620	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = NH4

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	14.6	3.3	11.4	12.4	29.0	13.7	13.5	10.2	12.4	3.3	1.6	11.4
IT	5.8	7.1	IPC	13.0	17.6	40.2	24.0	28.1	10.1	7.2	6.9	1.5	16.1
PS	17.9	5.9	6.4	8.5	24.6	14.4	32.9	43.7	19.1	6.2	5.5	2.1	12.8
VA	IPC	9.5	0.2	10.0	20.7	16.5	9.2	37.6	20.0	IPC	3.7	3.2	12.7
IL	9.3	4.9	15.7	IPC	14.4	18.7	IPC	IPC	28.2	8.5	13.9	7.3	15.0
BR	2.7	IPC	5.8	4.4	9.1	22.9	11.0	10.2	9.1	6.5	3.2	1.9	6.8
LE	6.4	1.2	5.3	7.1	20.1	14.5	35.5	20.7	24.4	3.1	3.7	2.4	11.6
OX	3.3	17.2	23.4	15.5	19.5	27.6	IPC	51.0	11.0	7.2	8.6	7.4	16.2
OR	5.3	2.5	4.9	6.5	18.9	16.5	29.8	22.1	5.4	1.7	5.5	2.8	0.4

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = NA

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.649	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = NA

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	8.9	7.1	5.8	1.6	0.7	0.5	0.4	1.5	1.8	0.5	0.8	2.0
IT	4.4	2.5	IPC	1.3	1.9	0.6	0.5	0.5	3.1	2.0	0.8	0.8	1.4
PS	6.3	2.6	2.8	3.5	4.3	0.6	1.7	1.0	2.2	3.4	2.3	0.5	2.6
VA	IPC	8.5	9.4	6.1	4.1	0.8	2.1	1.2	1.3	IPC	5.6	10.8	5.5
IL	6.7	0.8	1.5	IPC	2.1	1.4	IPC	IPC	9.3	1.0	3.9	1.5	2.5
BR	61.0	IPC	42.4	26.8	27.9	14.2	3.3	10.2	10.7	38.7	26.3	71.1	32.0
LE	56.0	288.4	123.0	66.3	40.7	20.3	22.2	10.1	34.0	110.1	82.8	147.1	76.0
OX	6.6	7.1	2.5	3.0	3.2	1.1	IPC	3.4	0.8	0.5	2.7	1.7	2.5
OR	4.2	1.6	6.4	1.8	7.6	2.6	4.6	1.7	1.6	1.0	1.7	1.3	2.9

MAP36 PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = CA

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.649	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = CA

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	3.0	1.0	2.5	1.4	2.8	3.8	2.1	2.4	3.7	0.4	0.2	1.8
IT	3.1	2.3	IPC	2.3	2.9	3.5	4.8	2.9	2.0	2.2	0.6	0.4	2.3
PS	3.0	1.9	1.5	2.2	3.3	1.8	0.3	7.7	4.1	2.3	1.4	0.7	2.5
VA	IPC	1.1	1.0	1.4	2.7	1.1	2.1	5.5	3.2	IPC	1.0	0.3	1.8
IL	2.6	0.5	5.0	IPC	5.0	5.1	IPC	IPC	21.5	2.0	2.6	2.0	5.5
BR	1.9	IPC	1.9	2.2	2.0	1.8	1.7	2.0	1.9	1.2	1.0	1.7	1.7
LE	5.9	6.7	3.9	2.8	3.0	2.5	7.5	2.2	2.0	2.0	3.1	3.2	3.2
OX	1.4	2.3	5.7	6.3	4.4	5.3	IPC	9.6	3.3	1.4	1.6	2.3	4.1
OR	9.4	2.8	6.9	3.4	4.4	4.3	11.9	7.7	4.3	1.2	2.5	2.1	3.8

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = MG

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.997	0.998	1.000	0.969	0.982	0.878	1.000	1.000	0.968
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.994	0.990	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.986
VA	0.623	1.000	0.985	0.991	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.945
IL	0.997	0.893	0.992	0.649	0.967	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.873
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = MG

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	0.5	0.4	0.9	0.3	0.6	0.7	0.4	0.6	0.9	0.1	0.1	0.5
IT	0.8	0.4	IPC	0.4	0.8	0.8	1.2	0.6	0.8	0.7	0.2	0.2	0.6
PS	0.3	0.3	0.3	0.4	0.8	0.4	1.5	1.1	1.1	0.5	0.4	0.2	0.5
VA	IPC	0.8	0.8	0.7	0.7	0.3	0.6	1.2	0.5	IPC	0.7	1.1	0.9
IL	1.1	0.3	1.1	IPC	1.2	1.1	IPC	4.1	0.3	0.8	0.5	0.5	1.1
BR	5.8	IPC	4.7	3.0	2.8	1.7	0.7	1.4	2.4	4.1	2.9	7.5	3.4
LE	5.6	23.7	12.3	6.2	4.2	2.2	3.9	1.3	4.0	11.1	8.2	16.1	7.6
OX	0.2	0.5	0.8	1.0	0.9	1.3	IPC	1.6	0.5	0.2	0.5	0.4	0.8
OR	2.0	0.4	1.1	0.4	1.4	1.0	2.2	1.3	1.8	0.2	0.4	0.3	0.8

MAP3S PRECIPITATION CHEMISTRY NETWORK
MONTHLY WEIGHTED AVERAGES FOR 1983 -- PCL DATA BASE

SPECIES = CSUM

FRACTION OF PRECIPITATION
INCLUDED IN AVERAGE

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	0.539	0.982	0.998	0.997	0.921	0.998	0.985	0.969	0.982	0.878	1.000	1.000	0.959
IT	1.000	1.000	0.690	1.000	1.000	1.000	1.000	0.995	1.000	0.999	1.000	1.000	0.981
PS	1.000	0.995	1.000	0.458	0.520	0.950	0.988	0.922	1.000	0.997	0.987	0.992	0.854
VA	0.623	1.000	0.985	0.706	0.992	1.000	0.986	0.996	1.000	0.717	1.000	1.000	0.896
IL	0.997	0.893	0.992	0.203	0.447	0.999	0.207	0.648	0.934	0.999	0.993	0.998	0.746
BR	1.000	0.647	0.912	0.996	0.944	0.972	1.000	1.000	0.985	0.852	1.000	1.000	0.948
LE	0.992	0.990	0.998	0.999	1.000	1.000	0.974	0.999	1.000	0.986	0.989	1.000	0.996
OX	0.957	0.878	0.993	0.947	0.986	0.990	0.628	0.931	0.972	0.988	0.991	0.963	0.954
OR	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

SPECIES = CSUM

WEIGHTED AVERAGE (UMOL/L)

SITE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
WH	IPC	84.5	30.1	62.6	64.8	134.2	65.1	71.1	48.4	64.4	30.2	26.3	62.1
IT	63.3	63.5	IPC	66.9	96.6	192.2	81.6	144.0	67.5	66.9	57.5	26.5	89.9
PS	110.2	55.6	56.6	IPC	IPC	138.5	209.8	293.2	141.7	64.3	63.7	38.6	92.4
VA	IPC	76.5	55.6	IPC	68.7	77.1	73.2	182.7	99.0	IPC	42.3	56.2	76.8
IL	78.1	54.7	73.3	IPC	IPC	107.0	IPC	IPC	161.9	58.2	64.7	61.4	IPC
BR	98.3	IPC	89.1	68.4	94.2	128.7	116.7	120.2	99.3	90.9	61.6	117.8	89.4
LE	108.3	366.2	188.3	119.3	123.4	118.8	206.9	124.9	156.9	153.8	139.2	210.3	156.9
OX	61.7	93.7	95.9	85.1	73.0	118.5	IPC	194.0	65.6	57.6	63.7	75.1	81.3
OR	80.4	55.5	51.9	42.4	78.2	107.3	178.0	153.4	61.4	30.3	48.1	50.7	63.9

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APPENDIX A

LEGEND FOR DATA TABLES

TABLE A.1. Legend for Table 2

Sub-Table	Column	Species	Units
1	1	Time Removed Time of day (on date at left) that sample was collected.	GMT or "Z"
	2	Lid Open Number of times the collector opened during the sample period	(none)
	3	Arrival Date Date sample arrived at the laboratory	Month. Day of Month
	4	Sample Volume Volume of sample as measured immediately after collection	mL
	5	Predicted Volume Volume for sample predicted on the basis of precipitation amount measured by the rain gauge. See Table 10 for collector areas.	mL
	6	Field pH T Temperature at which field pH measurement was made	C
	7	Field pH	pH units
	8	Lab pH ^(a)	pH units
	9	Conductivity ^(a)	μmho/cm
2	1	SO ₂ S(IV) or dissolved SO ₂ measured in separate tetrachloromercurate-fixed aliquots	μmoles/L
	2	SO ₄ ⁼ "Total Sulfur" measured as sulfate-this is normally the sum of SO ₂ and SO ₄	μmoles/L
	3	NO ₂ ⁻	μmoles/L

Table A.1 Continued

<u>Sub-Table</u>	<u>Column</u>	<u>Species</u>	<u>Units</u>
3	4	NO_3^-	$\mu\text{moles/L}$
	5	Cl^-	$\mu\text{moles/L}$
	6	PO_4^{3-}	$\mu\text{moles/L}$
	1	$\text{H}^+(\text{a})$ Free hydrogen ion concentration calculated from lab pH $[\text{H}^+ = 10^{(6-\text{pH})}]$	$\mu\text{moles/L}$
	2	NH_4^+	$\mu\text{moles/L}$
	3	Na^+	$\mu\text{moles/L}$
	4	K^+	$\mu\text{moles/L}$
	5	Ca^{++}	$\mu\text{moles/L}$
	6	Mg^{++}	$\mu\text{moles/L}$
	7	Anion Sum $2[\text{SO}_4^{=}] + [\text{NO}_2^-] + [\text{NO}_3^-] + [\text{Cl}^-]$ $+ 3[\text{PO}_4^{3-}] + [\text{unoxidized SO}_2]^b$	$\mu\text{eq/L}$
	8	Cation Sum $[\text{H}^+] + [\text{NH}_4^+] + [\text{Na}^+] + [\text{K}^+]$ $+ 2[\text{Ca}^{++}] + 2[\text{Mg}^{++}]$	$\mu\text{eq/L}$

(a) Measured at 25°C.

(b) Estimated.

TABLE A.2. Special Data Table Codes

<u>Code</u>	<u>Numerical Value^(a)</u>	<u>Explanation</u>
ISA	-200	Insufficient sample for analysis
NAP	-300	No analysis performed
MOE	-400	Malfunction or operator error
RPC	-500	Rejected - probable contamination
T		Trace
ML		Missing, precipitation likely
MU		Missing, precipitation unlikely
...		Amount spans a period greater than one hour

^(a)On data tape.

TABLE A.3. MAP3S/PCN Note Codes

<u>ADS^(a) Note Codes</u>	<u>Explanation</u>
A21	Equipment failure--all of event missed
A22	Equipment failure--some data loss
A23	Contaminated and Discarded in field
A24	Sample too aged for SO ₂ analysis
A25	Sample leaked in shipment
A26	Sample inadvertently discarded in field
A27	Sample not shipped
A28	Sample spoiled before analysis
A29	Vandalism--some data loss
A30	No explanation from operator
A31	Sample leaked before volume measurement
A32	Wet side open until sample collected
B31	Alternate rain gauge used
B32	Alternate collector used
B33	Wind problems
B34	Snowbridge or ice problems
B35	Overflow
B36	Sample frozen
B37	Late collection
B38	Organic debris in sample
B39	Unidentified debris in sample
B40	Fly ash in sample
B41	Dust/dirt in sample
B42	Bird droppings on funnel
B43	Bird droppings in sample
B44	Insects in sample
C21	Two events combined
C22	More than two events combined
C23	Weekly sample
D21	Equipment failure--part of event missing
D22	Possible operator contamination
D23	Field pH suspect due to procedure
D24	Predicted volume suspect due to rain gauge problems

^(a) Atmospheric Deposition System⁽¹⁾

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