

APPENDIX L

**REFERENCE YEAR AND HISTORICAL DEPOSITION ESTIMATES
FOR SAMI SITES**

L.1 Introduction

MAGIC and NuCM require, as atmospheric inputs for each SAMI site, estimates of the total annual deposition (eq/ha/yr) of eight ions, and the annual precipitation volume (m/yr). The eight ions are: Ca, Mg, Na, K, NH₄, SO₄, Cl, and NO₃. These total deposition data are required for each year of the calibration period at each site (the years for which observed stream-water data are used for calibrating the model to each site). Estimated total deposition data are also required for the 140 years preceding the calibration period as part of the calibration protocol for MAGIC and NuCM. This appendix discusses the procedures used for generating these required long-term sequences of total ionic deposition for each SAMI site, and tabulates and summarizes the individual site values.

This appendix contains tables of deposition-related variables for each site in the SAMI analysis. In these tables, each site is identified by a unique ID number assigned for the SAMI project. Table L-1 gives this same SAMI ID number along with the full name, location, and SAMI landscape classification group (bin number) for each site as a reference aid.

L.1.1 Definition of Deposition Components

Total deposition of an ion at a particular SAMI site for any year can be represented as follows. First, total deposition is represented as combined wet deposition, dry deposition, and occult deposition (cloud and fog):

$$\text{TotDep} = \text{WetDep} + \text{DryDep} + \text{OccDep}.$$

Inputs to the models are specified as wet deposition (the annual flux in meq/m₂/yr) and a dry deposition factor (DDF, unitless) used to multiply the wet deposition in order to get total deposition:

$$\text{TotDep} = \text{WetDep} * \text{DDF},$$

where

$$\text{DDF} = 1. + \text{DryDep} / \text{WetDep} + \text{OccDep} / \text{WetDep}.$$

Thus, given an annual wet deposition flux (WetDep), the ratio of dry deposition to wet deposition (DryDep / WetDep), and the ratio of occult deposition to wet deposition (OccDep / WetDep) for a given year at a site, the total deposition for that site and year is uniquely determined. (NOTE: the DDF calculated as above is the ratio of total-to-wet deposition for a site).

L.1.2 SAMI Reference Year Deposition

All future and past values of deposition used for model simulation in the SAMI project are expressed relative to the "SAMI Reference Year Deposition". This Reference Year Deposition is defined as the average deposition for the 5 year period 1991-1995.

In order to calibrate MAGIC, time-series of the total deposition at each site are needed for each year of: a) the calibration periods and b) the historical reconstructions. Such long-term observations do not exist. The procedure used to provide these input data (based on the SAMI Reference Year) was as follows.

The absolute values of wet deposition and DDF (calculated from the DryDep/WetDep and OccDep/WetDep ratios) for each ion were averaged over the period 1991-1995. The averages at a site were used as Reference Year deposition values for the site (the Reference Year was designated as 1995). These absolute values for the Reference Year wet deposition for each site were derived from observed wet deposition data as described in Section L.2. The absolute values of the DDF for each site were derived from DryDep/WetDep and OccDep/WetDep ratios as described in Section L.3.

Given the Reference Year values, the deposition data for calibration periods can be calculated using the Reference Year absolute values and scaled time series of wet deposition and DDF that give the values for a given year as a fraction of the Reference Year value. For instance, to calculate the total deposition of a particular ion in year j:

$$\text{TotDep}(j) = [\text{WetDep}(0) * \text{WetDepScale}(j)] * [\text{DDF}(0) * \text{DDF Scale}(j)] ,$$

where WetDep(0) is the Reference Year wet deposition (meq/m²/yr) of the ion, WetDepScale(j) is the scaled value of wet deposition in year j (expressed as a fraction of the wet deposition in the Reference Year), DDF(0) is the dry deposition factor for the ion for the Reference Year, and DDFScale(j) is the scaled value of the dry deposition factor in year j (expressed as a fraction of the DDF in the Reference Year). The long-term scaling sequences for wet deposition and DDF for each site were derived from the ASTRAP model as described in Section L.4

L.1.3 Deposition Inputs for the Models

Therefore, four inputs are required for each of the eight deposition ions in MAGIC in order to set the total deposition for all years required in the calibrations. These inputs are:

- 1) the absolute value of wet deposition at the site for the Reference Year (meq/m²/yr);
- 2) the absolute value of DDF (calculated from DryDep/WetDep and OccDep/WetDep ratios) for the site for the Reference Year, (unitless);
- 3) time series of scaled values of wet deposition covering all years of interest; and
- 4) time series of scaled values of DDF covering all years of interest.

The *absolute* value of wet deposition is highly time and space specific - varying geographically within the SAMI region, varying locally with elevation, and varying from year to year. It is desirable to have the estimates of wet deposition take into account the geographic location and elevation of the site as well as the year for which calibration data are available. Therefore estimates of wet deposition used for the SAMI Reference Year should be derived from a procedure (model) that has a high spatial resolution and considers elevation effects.

The *absolute* value of the dry deposition factor specifies the ratio between the absolute amounts of wet and total deposition. This ratio is less variable in time and space. That is, if in a given year the wet deposition goes up, then the total deposition usually goes up also (and conversely); and if the elevation or aspect of a given site results in lower wet deposition, the total deposition will be lower also (and conversely). Estimates of DDF used for MAGIC calibrations may, therefore, be derived from a procedure (model) that has a lower spatial resolution and/or temporally smoothes the data.

Similarly, the *long-term sequences* used for model simulations do not require detailed spatial or temporal resolution. That is, if for any given year the deposition goes up at one site, it also goes up at neighboring sites. Thus, *scaled sequences* of deposition (normalized to the same year) at neighboring sites will be very similar, even if the absolute deposition at the sites is very different due to local aspect, elevation, etc. MAGIC and NuCM require scaled long-term sequences of wet and total deposition. Therefore, if the scaled long-term patterns of wet deposition and DDF do not vary much from place to place or year to year, estimates of the *scaled sequences* may be derived from a procedure (model) that has a relatively low spatial resolution and/or temporally smoothes the data.

L.2 Reference Year Wet Deposition Values

The absolute values of wet deposition used for defining the SAMI Reference Year and for the MAGIC calibrations must be highly site specific. We used estimated wet deposition data for each site derived from the spatial extrapolation model of Grimm and Lynch (1997) referred to here as the Lynch model. The Lynch model is based on observed wet deposition at NADP monitoring stations, and provides a spatially interpolated value of wet deposition of each of the eight ions needed for MAGIC. The model also makes a correction for changes in precipitation volume (and thus wet deposition) based on the altitude at a given site. This correction arises from a model of orographic effects on precipitation volumes derived from regional climatological data.

The latitude, longitude, and elevation of MAGIC-SAMI sites were provided as inputs for Lynch model. The model outputs were quarterly and annual wet deposition estimates for each MAGIC site. The annual data are used for definition of the SAMI Reference Year and for MAGIC calibration and simulation. The NADP data (and thus the estimates provided by Lynch's model) cover the period 1983 to 1998. This period includes the SAMI reference period, all calibration periods for MAGIC sites.

The wet deposition values for the five years 1991-1995 were average for each SAMI site to define the Reference Year Deposition for each site. The Reference Year wet deposition values are tabulated for each site in Table L-2.

L.3 Reference Year DDF values

The ASTRAP model provided estimates of wet, dry, and occult deposition of SO₄ and NO_x at 33 sites in and around the SAMI region. The ASTRAP sites included 21 existing NADP deposition monitoring stations, 7 sites in Class I areas, and 5 sites that were neither NADP nor Class I. A number of these sites were outside the boundaries of SAMI and at a much lower elevation than the sites being modeled by MAGIC or NuCM. A subset of 17 ASTRAP sites was used to set deposition inputs for the models. The ASTRAP sites used for estimating deposition inputs are listed in Table L-3.

ASTRAP produced wet, dry, and occult deposition estimates of SO₄ and NO_x every ten years starting in 1900 and ending in 1990. The model outputs are smoothed estimates of deposition roughly equivalent to a ten-year moving average centered on each of the output years. The outputs of ASTRAP were used to estimate the absolute dry deposition factor for each ASTRAP site using:

$$DDF = 1. + \text{DryDep} / \text{WetDep} + \text{OccDep} / \text{WetDep}$$

where the DryDep/WetDep and OccDep/WetDep ratios were calculated from the ASTRAP output. This provided time series of DDF for SO₄ and NO_x for each ASTRAP site extending from 1900 to 1990. The values of DDF values for 1990 were used as the absolute values of DDF the SAMI Reference Year (Figures L-1 and L-2). SAMI modelling sites were assigned the Reference Year values of the DryDep/WetDep and OccDep/WetDep ratios, and of DDF from the nearest ASTRAP site (Table L-3).

NOTE: The high elevation sites in the Great Smoky Mountain National Park used DryDep/WetDep and OccDep/WetDep ratios taken from the "Integrated Forestry Study" results for the site, rather than the ratios taken from the ASTRAP model. This difference for these sites is reflected in the values in Table L-3.

L.4 Long-term Scaled Sequences of Wet Deposition and DDF

Estimates of past deposition values at each SAMI site are needed for the calibration of MAGIC. ASTRAP produced wet, dry, and occult deposition estimates of SO₄ and NO_x every ten years starting in 1900 and ending in 1990. These data were used to set up the scaled sequences of past wet deposition and DDF for the calibration of each SAMI site.

The wet, dry, and occult deposition estimates provided by ASTRAP for each year (for both SO₄ and NO_x) at each ASTRAP site were used to calculate the DDF for each year and each site. This provided time series of wet deposition and DDF for SO₄ and NO_x for each ASTRAP site extending from 1900 to 1990. These time series were normalized to the 1990 value at each site for to provide scaled sequences of wet deposition and DDF. These sequences are shown in Figures L-3 and L-4. SAMI modelling sites were assigned scaled sequences from the nearest ASTRAP site (these assignments are noted in Table L-1).

For each site, it was necessary to couple the past scaled sequences (used for the MAGIC

calibration at the site) to the future scaled sequences (used for the scenario or strategy simulations). The past scaled sequences are tied to ASTRAP's past deposition estimates which end in 1990. The future scaled sequences are based on the SAMI Reference Year, 1995. For each SAMI site, it was necessary to provide estimates of the changes in deposition that occurred between 1990 and 1995. These changes were derived from the site specific deposition data provided by the Lynch model.

L.5 Total Deposition for each site for the SAMI Reference Year

Using the estimated wet deposition, and the estimated DryDep/WetDep and OccDep/WetDep ratios for the Reference Year, the wet, dry and occult components, and the total deposition for each SAMI site were calculated for the Reference Year. The total deposition of all ions at each site is summarized in Table L-4. The individual wet, dry and occult components (along with total deposition) for SO₄, NO₃ and NH₄ are tabulated for each site in Table L-5.

Table L-1. Names, locations, and ID's of SAMI sites. The SAMI ID is a unique identifier assigned to each site. This ID is used in other tables in this appendix without the name and location data. Elevations are in meters. The "Air Site" identifies for each SAMI site the ASTRAP location used to assign dry and occult deposition ratios and past scaled sequences (see Table L-3 for further information). The "Bin Number" identifies the landscape classification unit to which each site belongs (all sites used in the regional analysis have a non-zero bin number, special interest sites have bin number zero). The table is arranged alphabetically in ascending order by SAMI ID. The number of sites is 164.

Stream Name	Site ID	Latitude	Longitude	Elev (m)	State	Air Site	Bin No.	SiteType
Grasses Creek-dry Branch	2A068015U	36.701	81.622	1048	VA	6	7	regional
Sugar Cove Branch Of N. River	2A07701	35.320	84.100	610	TN	11	4	regional
Cosby Creek	2A07805	35.790	83.240	436	TN	8	4	regional
Roaring Fork	2A07806	35.820	82.890	670	NC	15	4	regional
Little River	2A07810L	35.670	83.677	433	TN	8	0	special
Little River	2A07810U	35.628	83.541	811	TN	8	0	special
False Gap Prong	2A07811	35.700	83.380	549	TN	8	3	regional
Correll Branch	2A07812	35.680	83.090	884	NC	15	4	regional
Eagle Creek	2A07816	35.500	83.760	579	NC	8	4	regional
Forney Creek	2A07817	35.510	83.560	732	NC	8	3	regional
Grassy Creek	2A07821	35.460	82.280	552	NC	15	4	regional
Brush Creek	2A07823	35.320	83.520	549	NC	5	4	regional
Whiteoak Creek	2A07828	35.230	83.620	960	NC	5	4	regional
Catheys Creek	2A07829	35.210	82.790	689	NC	15	4	regional
Brush Creek	2A07834	35.110	83.260	838	NC	5	4	regional
Middle Saluda River	2A07835	35.120	82.540	329	SC	15	4	regional
Little Branch Creek	2A07882	35.450	83.060	936	NC	15	4	regional
Dunn Mill Creek	2A08802	34.950	84.440	506	GA	4	4	regional
Bear Creek	2A08804	34.820	84.570	567	GA	4	4	regional
Weaver Creek	2A08805	34.870	84.300	488	GA	4	4	regional
Bryant Creek	2A08810	34.610	84.000	448	GA	4	4	regional
Persimmon Creek	2A08901	34.910	83.500	596	GA	5	4	regional
Sprigs Hollow	2B041020L	39.562	78.424	168	WV	7	8	regional
No Name	2B041049U	39.110	78.441	378	VA	7	5	regional
Elk Run	2B047032	38.632	79.586	823	WV	14	8	regional
Straight Fork	2B047044U	38.498	79.611	899	VA	14	8	regional
Lower Lewis Run	2B047076L	38.305	78.746	354	VA	3	0	special
Lower Lewis Run	2B047076U	38.285	78.719	543	VA	3	6	regional
Whites Run	2B058015U	37.780	79.291	500	VA	10	2	regional
No Name	2C041033U	39.363	79.735	671	WV	14	10	regional
Buffalo Creek	2C041039	39.261	79.755	576	WV	14	12	regional
Thunderstruck Creek	2C041040	39.249	79.601	658	WV	14	11	regional
No Name	2C041043U	39.238	79.167	671	WV	7	12	regional
Right Fork Clover Run	2C041045	39.148	79.715	485	WV	14	12	regional
Coal Run	2C041051	39.040	79.616	558	WV	14	9	regional
Right Fork Holly River	2C046013L	38.569	80.418	448	WV	1	12	regional
Johnson Run	2C046033	38.347	80.408	704	WV	1	9	regional
Hateful Run	2C046034	38.351	80.259	879	WV	1	9	regional
North Fork Cherry River	2C046043L	38.231	80.416	937	WV	1	10	regional
North Fork Cherry River	2C046043U	38.233	80.407	954	WV	1	0	special
Hedricks Creek	2C046050	38.125	80.982	603	WV	1	12	regional
Laurel Creek	2C046053L	38.129	80.553	823	WV	1	11	regional
Little Clear Creek	2C046062L	37.998	80.569	866	WV	1	12	regional
Crawford Run	2C047007	38.759	79.923	607	WV	14	12	regional

Table L-1. Continued.								
Stream Name	Site ID	Latitude	Longitude	Elev (m)	State	Air Site	Bin No.	SiteType
Clubhouse Run	2C047010L	38.632	79.760	920	WV	14	10	regional
Clubhouse Run	2C047010U	38.630	79.745	969	WV	14	11	regional
Butler Branch	2C057004	37.956	80.943	721	WV	1	10	regional
Johnson Mill Branch	2C066026L	36.247	85.038	488	TN	17	11	regional
No Name	2C066027L	36.270	84.865	454	TN	17	11	regional
No Name	2C066027U	36.245	84.872	489	TN	17	9	regional
Wallace Branch	2C066039L	36.002	85.005	527	TN	17	12	regional
Gladly Fork	2C077022U	35.525	85.475	555	TN	4	11	regional
1306	BJ35	36.118	82.084	1420	TN	6	2	regional
M_S3_N2_2	BJ72	35.331	82.672	1717	NC	13	2	regional
CDB	BJ76	35.358	83.383	971	NC	13	0	special
BEFPR	BJ77	35.368	82.935	971	NC	13	0	special
Belfast Creek	BLFC	37.580	79.467	317	VA	10	0	special
Un-named eastern Trib	CO01	34.876	84.600	707	GA	4	3	regional
Hickory Creek	CO05	34.940	84.648	390	GA	4	3	regional
Bear Brook	CO06	34.921	84.532	427	GA	4	4	regional
Beech Creek	CO10	34.979	84.566	472	GA	4	3	regional
Deep Run	DR	38.266	78.743	415	VA	3	0	special
Deep Run	DR01	38.266	78.743	415	VA	3	6	regional
Little Stonecoal Run	DS04	38.991	79.396	932	WV	7	9	regional
Stonecoal Run (left branch)	DS06	39.002	79.388	1127	WV	7	0	special
Stonecoal Run (right branch)	DS09	39.007	79.383	1115	WV	7	9	regional
Fisher Spring Run	DS19	39.002	79.360	1011	WV	7	0	special
Unnamed	DS50	39.026	79.363	1097	WV	7	0	special
Fernow - WS10	FN1	39.064	79.681	713	WV	14	0	special
Fernow - WS13	FN2	39.063	79.679	695	WV	14	0	special
Fernow - WS4	FN3	39.056	79.688	744	WV	14	9	regional
GSMNP Noland Creek - NE fork	GS01	35.565	83.480	1740	NC	8	2	regional
GSMNP Noland Creek - SW fork	GS02	35.564	83.480	1800	NC	8	2	regional
GSMNP Deep Creek	GS04	35.608	83.442	1600	NC	8	4	regional
GSMNP Jay Bird Branch	GS05	35.680	83.597	1248	TN	8	3	regional
GSMNP LeConte Creek	GS06	35.687	83.503	570	TN	8	4	regional
GSMNP Raven Fork	GS07	35.610	83.254	1800	NC	15	3	regional
GSMNP Enloe Creek	GS08	35.614	83.270	1500	NC	15	3	regional
Laurel Branch Downstream	LB01	35.339	84.083	900	TN	11	4	regional
Lewis Fork	LEWF	36.671	81.525	1103	VA	10	0	special
Sulphur Spring Creek	M037	37.577	79.438	427	VA	10	3	regional
Big Hellcat Creek	M038	37.611	79.451	317	VA	10	0	special
Little Hellgate Creek	M039	37.603	79.465	317	VA	10	0	special
North Fork of Dry Run	NFD	38.623	78.355	488	VA	2	0	special
North Fork of Dry Run	NFDR	38.623	78.355	488	VA	2	4	regional
Condon Run	OC02	38.942	79.670	923	WV	14	9	regional
Yellow Creek	OC05	38.953	79.664	911	WV	14	0	special
Unnamed	OC08	38.980	79.639	871	WV	14	0	special
Devils Gulch	OC09	38.983	79.643	853	WV	14	9	regional
Possession Camp Run	OC31	39.000	79.645	798	WV	14	0	special
Moores Run	OC32	39.000	79.646	798	WV	14	0	special
Coal Run	OC35	39.033	79.620	688	WV	14	0	special
Otter Creek (upper)	OC79	38.938	79.660	950	WV	14	10	regional

Table L-1. Continued.								
Stream Name	Site ID	Latitude	Longitude	Elev (m)	State	Air Site	Bin No.	SiteType
Paine Run	PAIN	38.201	78.769	424	VA	3	0	special
Un-named Trib between 8 and 9	SP10	34.298	87.429	186	AL	16	0	special
Un-named Trib above 38	SP39	34.369	87.438	250	AL	16	11	regional
Quillan Creek	SP41	34.317	87.481	183	AL	16	0	special
Staunton River	STAN	38.457	78.399	308	VA	3	0	special
Noname Trib Stony Cr.	VA524S	37.423	80.630	914	VA	9	6	regional
Bearpen Branch	VA526S	37.201	82.486	463	VA	12	12	regional
Ragged Run	VA531S	38.537	78.306	505	VA	2	0	special
Noname Trib Gap Cr	VA548S	38.699	78.596	445	VA	2	7	regional
Little Mill Cr	VA555S	38.080	79.499	694	VA	10	7	regional
Little Walker Cr.	VA821S	37.148	80.823	591	VA	9	8	regional
Lewis Fork	VT02	36.671	81.525	1103	VA	10	3	regional
Raccoon Branch	VT05	36.739	81.449	835	VA	6	4	regional
Cove Branch	VT07	37.072	81.433	930	VA	9	6	regional
Roaring Fork-Upper	VT08	37.064	81.418	930	VA	9	7	regional
Roaring Fork-Lower	VT09	37.055	81.458	664	VA	9	6	regional
Laurel Run	VT10	38.176	79.679	725	VA	10	7	regional
Mare Run	VT11	38.013	79.786	619	VA	10	7	regional
Panther Run	VT12	38.007	79.775	619	VA	10	8	regional
Porters Creek	VT15	37.979	79.787	604	VA	10	7	regional
Bearwallow Run	VT18	38.547	79.655	957	VA	14	8	regional
Lost Run	VT19	38.549	79.644	957	VA	14	8	regional
Hipes Branch	VT20	37.679	79.941	335	VA	10	8	regional
Shawvers Run	VT24	37.600	80.175	567	VA	9	7	regional
Cove Branch	VT25	37.584	80.161	561	VA	9	6	regional
Pine Swamp Branch	VT26	37.430	80.613	725	VA	9	5	regional
Nf Stony Creek	VT28	37.460	80.546	835	VA	9	6	regional
War Spur Branch	VT29	37.395	80.493	707	VA	9	6	regional
Nobusiness Creek	VT31	37.255	80.875	735	VA	9	5	regional
Laurel Creek	VT32	37.378	80.603	942	VA	9	6	regional
Laurel Run	VT34	37.916	79.472	387	VA	10	7	regional
Paine Run	VT35	38.201	78.769	424	VA	3	6	regional
Meadow Run	VT36	38.170	78.785	451	VA	3	1	regional
North River	VT37	38.421	79.266	811	VA	2	7	regional
Ramseys Draft	VT38	38.346	79.332	707	VA	2	8	regional
Kennedy Creek	VT39	37.946	79.034	561	VA	3	1	regional
St Marys R-Lower	VT41	37.928	79.092	530	VA	3	0	special
Little Cove Creek	VT46	37.738	79.211	506	VA	10	4	regional
Big Mack Creek	VT48	36.946	80.635	658	VA	9	4	regional
Little Stony Creek	VT49	38.958	78.627	466	VA	7	6	regional
Laurel Run	VT50	38.918	78.729	524	VA	7	5	regional
Two Mile Run	VT53	38.319	78.655	372	VA	3	2	regional
German River-Upper	VT54	38.674	79.078	762	VA	7	8	regional
Beech Lick Run	VT55	38.703	79.023	646	VA	7	8	regional
Wolf Run	VT56	38.438	79.169	594	VA	2	6	regional
Black Run-Lower	VT57	38.512	79.110	524	VA	2	7	regional
Brokenback Run	VT58	38.570	78.330	329	VA	2	0	special
Staunton River	VT59	38.457	78.399	308	VA	3	4	regional
Hazel Run	VT62	38.624	78.293	329	VA	2	0	special

Table L-1. Continued.								
Stream Name	Site ID	Latitude	Longitude	Elev (m)	State	Air Site	Bin No.	SiteType
Rose River	VT66	38.522	78.402	341	VA	2	0	special
St Marys R-Upper	VT68	37.935	79.060	725	VA	10	1	regional
Bear Branch (Smr)	VT70	37.922	79.078	677	VA	10	2	regional
Hogback Br (Smr)	VT72	37.945	79.096	689	VA	10	5	regional
Sugartree Br (Smr)	VT73	37.912	79.111	628	VA	10	3	regional
St Marys R-Middle	VT74	37.932	79.083	579	VA	10	2	regional
White Oak Canyon R	VT75	38.567	78.365	354	VA	2	0	special
Belfast Creek	VT76	37.578	79.476	317	VA	10	2	regional
Matts Creek	VT77	37.588	79.433	256	VA	10	0	special
Little Tumbling Creek	VT78	36.957	81.738	799	VA	6	5	regional
White Oak Run	WOR	38.234	78.742	451	VA	3	0	special
White Oak Run	WOR1	38.234	78.742	451	VA	3	7	regional
Noname Trib Stony	WV523S	39.152	79.323	1170	WV	7	9	regional
Otter Cr	WV531S	39.011	79.646	847	WV	14	10	regional
Gauley	WV547S	38.399	80.493	650	WV	1	12	regional
Noname Trib South Fork Cherry R.	WV548S	38.214	80.479	768	WV	1	9	regional
Nnt Laurel Run	WV769S	38.879	79.956	719	WV	14	11	regional
Moss Run	WV770S	38.715	79.961	621	WV	14	12	regional
Left Fork Clover Run	WV771S	39.163	79.713	469	WV	14	12	regional
Nnt Glade Cr	WV785S	37.714	81.047	847	WV	1	9	regional
White Oak Fork	WV788S	38.357	80.383	857	WV	1	10	regional
Red Cr	WV796S	39.039	79.337	1127	WV	7	11	regional

Table L-2. Reference year wet deposition values for each SAMI site. The units are eq/ha/yr as provided by the spatial extrapolation model of Grimm and Lynch (1997). The wet deposition values for the five years 1991-1995 were average for each SAMI site to define the Reference Year Deposition for each site. The table is arranged alphabetically in ascending order by SAMI ID. The number of sites is 164.

	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
Average	51.7	15.5	39.2	6.8	137.1	475.3	51.1	228.3	250.3	754.7	-504.4	134.1
Std. Dev.	16.3	2.8	14.9	1.8	22.6	107.8	14.9	54.5	42.8	163.0	128.9	26.1
Maximum	95.6	25.8	85.7	13.2	209.0	740.2	103.3	363.6	384.4	1151.0	-277.4	252.3
Minimum	22.9	9.3	20.6	3.6	89.8	285.7	29.3	131.2	161.2	467.1	-827.9	93.2
Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
2A068015U	45.6	13.3	31.7	7.0	119.6	398.1	38.5	186.0	217.1	622.6	-405.5	126.8
2A07701	41.7	14.1	42.2	6.8	118.2	405.3	53.2	176.0	223.0	634.5	-411.5	128.3
2A07805	33.8	9.9	27.5	4.9	91.7	316.2	32.7	145.1	167.8	494.0	-326.2	116.0
2A07806	38.2	12.2	36.1	5.7	112.0	393.7	42.3	172.8	204.2	608.9	-404.7	147.8
2A07810L	38.9	10.6	27.6	6.0	101.0	341.6	33.9	160.4	184.2	535.8	-351.6	116.7
2A07810U	43.8	12.3	31.4	7.0	118.5	406.5	37.7	187.9	213.0	632.1	-419.1	136.2
2A07811	32.7	9.3	24.6	4.8	89.8	307.4	29.3	140.9	161.2	477.6	-316.4	105.4
2A07812	49.9	15.8	45.3	7.8	145.4	514.5	53.6	227.1	264.2	795.2	-531.0	186.2
2A07816	48.6	14.8	41.1	7.9	131.6	448.9	50.5	205.0	244.0	704.3	-460.3	151.8
2A07817	50.3	15.3	41.9	8.5	140.1	473.9	50.1	218.7	256.2	742.6	-486.5	164.9
2A07821	26.4	11.4	40.6	5.1	97.6	317.1	45.8	135.1	181.2	498.0	-316.8	128.3
2A07823	36.9	13.3	41.5	6.5	107.7	366.0	49.1	165.8	206.0	580.9	-374.9	136.8
2A07828	43.7	16.8	54.4	8.0	129.3	439.5	64.4	196.8	252.3	700.7	-448.4	163.6
2A07829	42.1	18.5	65.2	8.5	141.5	472.0	74.0	206.9	275.7	753.0	-477.3	197.2
2A07834	32.6	14.6	52.1	6.5	102.1	335.6	59.1	150.6	207.8	545.3	-337.5	137.9
2A07835	32.2	14.6	52.9	6.9	113.0	369.5	59.7	160.7	219.6	590.0	-370.3	151.4
2A07882	43.3	16.1	51.7	7.7	134.5	459.1	59.8	204.6	253.3	723.4	-470.1	182.9
2A08802	55.1	21.8	71.4	10.1	168.0	551.1	87.6	234.4	326.5	873.0	-546.5	183.3
2A08804	62.9	25.8	85.7	12.0	198.0	624.6	103.3	265.0	384.4	992.9	-608.5	208.1
2A08805	46.3	19.0	63.2	9.0	142.8	462.6	76.2	198.6	280.2	737.4	-457.2	159.2
2A08810	50.6	23.4	82.0	11.3	162.7	511.1	95.4	222.2	330.0	828.7	-498.7	192.9
2A08901	41.4	19.5	70.5	8.8	129.4	423.3	80.5	187.9	269.6	691.7	-422.1	172.3
2B041020L	41.3	13.0	23.8	5.9	144.0	447.7	43.1	220.3	228.0	711.0	-483.0	95.3
2B041049U	32.2	11.2	26.5	4.3	117.4	351.8	39.1	170.3	191.7	561.2	-369.5	93.2
2B047032	57.9	14.2	27.5	5.5	137.1	511.7	41.5	255.6	242.2	808.7	-566.5	124.3
2B047044U	54.5	14.1	28.6	5.5	134.8	496.5	42.0	247.9	237.5	786.4	-548.9	123.6
2B047076L	32.5	13.8	43.0	4.5	126.9	396.8	52.9	189.2	220.7	638.9	-418.1	113.2
2B047076U	37.4	16.7	54.1	5.3	146.7	457.1	65.5	218.8	260.3	741.4	-481.1	131.1
2B058015U	41.6	16.0	43.0	6.3	133.1	441.4	55.1	220.1	240.1	716.7	-476.6	117.7
2C041033U	87.7	18.8	26.5	8.6	181.3	740.2	51.0	359.8	323.0	1151.0	-827.9	139.7
2C041039	81.8	16.7	23.7	7.2	160.5	663.2	43.7	323.3	289.8	1030.3	-740.5	126.8
2C041040	76.8	15.9	23.4	6.9	155.3	628.4	42.4	308.8	278.4	979.6	-701.2	123.9
2C041043U	53.5	13.4	22.4	5.9	137.5	496.2	39.1	242.5	232.6	777.7	-545.1	107.6
2C041045	75.7	14.6	21.1	5.9	141.9	589.3	37.2	288.6	259.3	915.2	-655.9	114.3
2C041051	84.4	16.4	25.2	6.4	161.5	653.2	42.2	324.1	294.0	1019.5	-725.5	133.5
2C046013L	63.0	14.3	24.5	6.1	135.8	533.1	38.8	271.3	243.6	843.1	-599.5	127.0
2C046033	58.9	13.9	25.4	6.1	133.5	508.5	38.8	262.3	237.8	809.6	-571.8	129.2
2C046034	65.1	15.5	28.9	6.7	149.3	565.3	43.7	289.0	265.5	898.0	-632.5	142.4
2C046043L	58.5	14.2	26.7	6.3	135.9	509.6	40.0	263.8	241.5	813.4	-571.9	133.6

Table L-2. Continued.

Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
2C046043U	57.7	14.0	26.4	6.2	134.2	504.3	39.6	260.7	238.6	804.6	-566.0	132.1
2C046050	45.5	11.0	20.6	4.9	109.2	396.4	30.8	213.1	191.1	640.3	-449.1	111.5
2C046053L	51.4	12.6	23.8	5.8	121.3	448.5	35.4	234.6	214.9	718.5	-503.6	121.6
2C046062L	49.9	12.4	24.1	6.0	118.3	428.9	35.0	225.8	210.7	689.7	-479.0	120.1
2C047007	66.8	14.4	24.0	5.8	138.8	552.2	38.4	274.3	249.8	864.9	-615.1	122.5
2C047010L	66.5	15.4	28.4	6.1	148.9	571.2	43.6	286.1	265.4	900.9	-635.6	135.4
2C047010U	67.0	15.6	28.9	6.2	150.7	576.9	44.3	288.9	268.4	910.2	-641.8	137.0
2C057004	42.9	10.6	20.7	4.9	106.7	379.3	30.4	206.4	185.8	616.1	-430.3	111.9
2C066026L	65.7	19.6	49.2	8.0	160.3	581.1	70.6	241.2	302.9	893.0	-590.0	148.5
2C066027L	66.1	19.4	47.5	8.0	157.2	585.9	69.8	242.5	298.2	898.3	-600.1	148.1
2C066027U	66.6	19.6	48.3	8.1	158.8	592.3	71.0	244.8	301.4	908.1	-606.7	149.9
2C066039L	65.8	20.1	53.5	8.5	165.2	600.1	76.0	245.7	313.1	921.8	-608.7	155.5
2C077022U	62.9	21.3	64.6	9.0	180.3	583.6	83.6	241.8	338.1	908.9	-570.8	166.0
BJ 35	38.8	13.3	39.7	5.9	123.1	408.5	46.0	180.2	220.8	634.6	-413.8	152.1
BJ 72	39.2	16.6	57.8	7.5	132.7	445.1	65.7	193.5	253.7	704.2	-450.5	185.0
BJ 76	39.8	14.4	45.0	7.1	119.0	405.3	52.8	182.7	225.4	640.8	-415.4	152.4
BJ 77	37.4	14.8	49.2	6.8	120.9	404.6	56.4	178.9	229.2	639.9	-410.7	162.2
BLFC	41.5	15.4	39.7	6.8	127.2	412.8	50.7	205.5	230.6	669.0	-438.4	112.5
CO01	51.4	20.2	65.8	9.5	161.3	513.4	80.1	216.9	308.2	810.4	-502.2	163.1
CO05	40.7	15.7	50.8	7.3	125.5	400.8	62.4	169.3	240.0	632.5	-392.5	127.0
CO06	61.6	24.5	80.0	11.4	189.5	616.8	97.9	260.9	366.9	975.6	-608.7	201.6
CO10	45.0	17.3	55.9	8.1	137.2	441.8	68.8	187.2	263.5	697.8	-434.4	141.1
DR	34.8	15.2	48.5	4.9	135.3	425.6	59.3	204.5	238.7	689.4	-450.6	120.6
DR01	34.8	15.2	48.5	4.9	135.3	425.6	59.3	204.5	238.7	689.4	-450.6	120.6
DS04	69.3	15.7	27.6	6.2	153.7	578.0	44.4	291.6	272.4	914.0	-641.6	133.9
DS06	69.3	15.7	27.6	6.2	153.7	578.0	44.4	291.6	272.4	914.0	-641.6	133.9
DS09	69.3	15.7	27.6	6.2	153.7	578.0	44.4	291.6	272.4	914.0	-641.6	133.9
DS19	69.3	15.7	27.6	6.2	153.7	578.0	44.4	291.6	272.4	914.0	-641.6	133.9
DS50	69.3	15.7	27.6	6.2	153.7	578.0	44.4	291.6	272.4	914.0	-641.6	133.9
FN1	95.6	18.1	27.3	7.1	177.9	736.3	45.8	362.7	326.1	1144.9	-818.8	146.3
FN2	93.1	17.7	26.6	7.0	173.2	716.4	44.7	353.1	317.5	1114.2	-796.7	142.6
FN3	95.6	18.2	27.5	7.2	178.3	738.3	46.1	363.6	326.8	1148.0	-821.1	147.3
GS01	75.7	22.8	60.6	13.2	209.0	736.3	73.1	333.8	381.3	1143.2	-761.8	252.3
GS02	75.7	22.8	60.7	13.2	208.9	736.1	73.2	333.7	381.3	1142.9	-761.7	252.3
GS04	63.9	18.9	49.5	10.7	177.6	625.3	59.5	283.2	320.6	968.0	-647.4	210.9
GS05	50.6	13.7	34.5	8.3	130.5	446.8	41.8	209.7	237.6	698.3	-460.7	153.1
GS06	34.8	9.5	24.7	5.3	93.0	316.4	29.6	147.2	167.3	493.2	-325.9	107.9
GS07	48.8	15.3	43.0	8.1	142.7	490.6	50.6	221.4	258.0	762.6	-504.7	175.4
GS08	54.8	17.1	47.6	9.2	159.2	551.7	56.2	248.5	287.9	856.5	-568.6	195.9
LB01	46.4	15.5	46.0	7.5	131.0	452.9	58.1	196.6	246.4	707.7	-461.3	142.3
LEWF	48.2	14.5	35.3	7.9	130.0	421.2	42.8	198.6	235.9	662.6	-426.7	136.2
M037	41.5	15.4	39.7	6.8	127.2	412.8	50.7	205.5	230.6	669.0	-438.4	112.5
M038	41.5	15.4	39.7	6.8	127.2	412.8	50.7	205.5	230.6	669.0	-438.4	112.5
M039	41.5	15.4	39.7	6.8	127.2	412.8	50.7	205.5	230.6	669.0	-438.4	112.5
NFD	35.1	17.2	64.3	5.4	151.6	410.8	70.6	190.2	273.5	671.6	-398.1	146.2
NFDR	35.1	17.2	64.3	5.4	151.6	410.8	70.6	190.2	273.5	671.6	-398.1	146.2
OC02	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
OC05	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0

Table L-2. Continued.

Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
OC08	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
OC09	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
OC31	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
OC32	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
OC35	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
OC79	81.1	16.3	26.1	6.4	159.5	641.5	42.9	318.6	289.5	1003.1	-713.6	136.0
PAIN	35.4	16.0	50.5	5.1	136.4	439.3	62.3	214.0	243.4	715.7	-472.3	120.0
SP10	52.2	20.8	75.4	8.1	149.7	379.7	84.6	183.4	306.1	647.8	-341.6	155.1
SP39	53.2	21.0	76.2	8.2	153.6	391.5	85.5	188.5	312.2	665.6	-353.3	158.6
SP41	53.2	21.1	76.4	8.2	151.8	384.0	85.8	186.6	310.7	656.4	-345.7	157.9
STAN	25.7	14.3	57.7	4.1	117.2	321.3	61.1	148.1	219.1	530.5	-311.4	114.8
VA524S	52.8	13.9	26.1	10.2	111.4	386.6	34.0	188.9	214.5	609.5	-395.1	111.2
VA526S	57.1	12.4	24.7	5.4	103.9	385.2	30.7	191.6	203.5	607.5	-404.0	119.7
VA531S	22.9	12.0	46.2	3.6	105.0	285.7	50.2	131.2	189.7	467.1	-277.4	100.2
VA548S	31.1	12.3	37.4	4.3	122.3	352.0	46.1	164.8	207.4	562.9	-355.5	114.5
VA555S	43.9	14.1	33.8	5.6	125.1	434.9	45.6	218.5	222.5	699.0	-476.5	115.5
VA821S	45.9	12.8	26.3	9.0	104.0	345.4	33.3	168.4	198.0	547.2	-349.1	104.1
VT02	48.2	14.5	35.3	7.9	130.0	421.2	42.8	198.6	235.9	662.6	-426.7	136.2
VT05	42.6	12.7	30.4	7.0	112.3	365.6	37.1	173.4	205.0	576.1	-371.0	117.3
VT07	52.9	14.0	29.9	8.0	123.7	418.1	37.6	202.7	228.5	658.4	-430.0	128.9
VT08	50.5	13.4	28.9	7.7	117.8	398.2	36.4	193.8	218.3	628.4	-410.1	124.0
VT09	51.9	13.7	29.5	7.8	121.2	413.3	37.2	199.5	224.1	650.0	-425.9	128.1
VT10	47.7	13.9	31.0	5.7	126.1	450.0	43.3	227.9	224.4	721.2	-496.8	118.6
VT11	51.5	15.2	34.3	6.6	134.9	473.4	47.0	241.9	242.5	762.3	-519.8	128.2
VT12	48.4	14.5	32.7	6.3	127.8	446.7	44.8	228.5	229.6	720.1	-490.4	121.2
VT15	44.8	13.4	30.4	5.8	118.5	413.5	41.5	211.2	213.0	666.3	-453.3	112.2
VT18	61.5	15.4	30.5	6.0	146.5	544.6	45.4	274.8	259.9	864.8	-605.0	135.4
VT19	62.7	15.8	31.4	6.2	150.1	557.7	46.8	281.1	266.2	885.5	-619.3	138.7
VT20	42.6	13.2	29.7	6.7	109.9	374.5	39.4	189.8	202.1	603.7	-401.5	105.5
VT24	45.8	13.2	28.0	7.6	109.8	375.8	37.1	189.9	204.2	602.8	-398.5	108.0
VT25	46.5	13.7	29.2	7.9	111.5	382.0	38.5	192.7	208.8	613.2	-404.5	110.3
VT26	53.1	14.0	26.4	10.3	112.0	388.3	34.4	190.3	215.8	613.0	-397.2	111.9
VT28	51.5	13.7	26.1	9.8	109.7	379.5	34.1	187.4	210.8	601.1	-390.2	109.8
VT29	55.1	15.1	29.1	11.4	116.6	397.9	37.5	196.8	227.4	632.2	-404.7	116.9
VT31	50.3	13.5	26.7	9.4	111.0	376.8	34.1	183.3	210.9	594.2	-383.4	111.4
VT32	56.8	15.3	28.2	12.0	117.6	405.4	36.4	197.1	229.9	639.0	-409.1	117.1
VT34	40.3	13.8	34.5	5.6	119.6	405.6	45.5	203.8	213.8	654.9	-441.1	108.4
VT35	35.4	16.0	50.5	5.1	136.4	439.3	62.3	214.0	243.4	715.7	-472.3	120.0
VT36	38.7	17.9	57.3	5.6	147.6	478.6	70.6	234.8	267.1	784.0	-516.9	130.2
VT37	46.7	14.6	34.9	5.4	136.5	469.1	47.9	232.0	238.1	749.0	-510.9	125.3
VT38	49.2	15.6	37.6	5.8	141.9	492.0	51.4	245.3	250.0	788.8	-538.8	131.7
VT39	40.9	17.2	50.7	6.0	142.8	468.3	63.8	234.3	257.6	766.3	-508.8	122.9
VT41	43.1	17.6	50.2	6.3	146.6	485.7	63.8	242.0	263.7	791.4	-527.7	126.9
VT46	40.5	17.2	48.6	6.4	133.5	437.2	61.4	220.9	246.3	719.5	-473.2	118.9
VT48	47.0	14.9	32.3	10.2	120.4	379.5	40.1	180.7	224.7	600.3	-375.6	111.5
VT49	34.1	11.7	29.0	4.4	120.5	365.8	40.7	175.6	199.7	582.0	-382.3	103.4
VT50	34.1	11.4	27.7	4.3	116.6	360.6	39.0	173.1	194.1	572.6	-378.5	101.4
VT53	32.5	14.7	48.4	4.7	131.3	400.8	58.0	190.4	231.6	649.2	-417.6	118.7

Table L-2. Continued.

Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
VT54	48.2	15.0	35.5	5.5	145.0	480.1	49.3	234.9	249.0	764.2	-515.2	132.3
VT55	41.1	12.8	30.5	4.8	127.3	416.8	42.3	201.2	216.4	660.3	-443.9	114.6
VT56	41.2	13.4	33.5	4.9	127.0	427.9	45.3	208.9	220.0	682.1	-462.1	115.1
VT57	38.4	12.6	31.6	4.5	119.7	399.5	42.8	194.6	206.8	636.9	-430.1	109.9
VT58	24.9	12.9	49.7	3.9	112.3	303.9	53.8	139.8	203.8	497.5	-293.7	107.9
VT59	25.7	14.3	57.7	4.1	117.2	321.3	61.1	148.1	219.1	530.5	-311.4	114.8
VT62	28.3	13.9	50.8	4.3	125.2	340.4	56.7	157.5	222.6	554.7	-332.1	117.4
VT66	25.7	14.0	56.8	4.1	117.6	315.1	59.4	144.3	218.2	518.8	-300.7	117.1
VT68	43.9	18.6	54.4	6.5	150.8	495.9	68.6	249.1	274.1	813.6	-539.4	131.4
VT70	42.4	17.8	52.0	6.3	144.4	476.5	65.6	239.6	262.9	781.6	-518.7	126.9
VT72	45.8	18.9	54.4	6.7	154.4	510.7	68.9	256.2	280.1	835.8	-555.6	136.1
VT73	44.6	18.4	52.6	6.6	150.3	496.5	66.7	248.9	272.5	812.1	-539.7	131.6
VT74	43.2	17.8	51.4	6.3	147.4	487.3	65.1	243.5	266.2	796.0	-529.8	128.2
VT75	26.3	14.0	55.1	4.2	118.0	317.9	58.8	146.7	217.5	523.3	-305.8	116.1
VT76	41.5	15.4	39.7	6.8	127.2	412.8	50.7	205.5	230.6	669.0	-438.4	112.5
VT77	42.1	16.1	42.8	6.9	131.4	422.5	54.4	212.1	239.3	689.0	-449.7	116.3
VT78	48.4	12.6	28.1	6.6	112.3	384.7	34.9	185.9	208.1	605.6	-397.5	122.7
WOR	36.3	16.3	52.2	5.2	140.9	447.4	63.8	216.1	250.9	727.3	-476.4	123.7
WOR1	36.3	16.3	52.2	5.2	140.9	447.4	63.8	216.1	250.9	727.3	-476.4	123.7
WV523S	84.3	19.4	32.5	8.2	194.8	727.0	54.9	362.7	339.2	1144.5	-805.3	159.9
WV531S	82.8	16.2	24.8	6.4	161.1	659.4	41.6	320.1	291.3	1021.2	-729.9	132.1
WV547S	58.6	13.7	24.5	6.0	131.8	504.4	37.8	259.6	234.6	801.8	-567.2	126.6
WV548S	55.6	13.4	25.2	6.0	129.3	484.8	37.8	251.5	229.5	774.1	-544.6	127.8
WV769S	81.3	16.8	26.8	6.8	161.6	656.3	44.2	325.5	293.3	1026.1	-732.7	140.2
WV770S	65.7	14.3	24.1	5.8	138.6	550.6	38.5	272.5	248.6	861.5	-612.9	122.9
WV771S	73.9	14.4	20.8	5.9	139.5	580.1	36.7	283.3	254.5	900.1	-645.6	112.2
WV785S	44.7	11.0	21.3	5.8	102.1	362.7	29.7	189.7	184.9	582.1	-397.2	107.8
WV788S	60.1	14.2	26.1	6.2	136.2	520.7	39.8	267.7	242.7	828.2	-585.4	132.0
WV796S	75.6	17.4	30.3	7.0	173.6	646.3	49.4	322.3	303.9	1018.0	-714.1	146.8

Table L-3. Ratios of dry-to-wet and occult-to-wet deposition, and the calculated dry deposition factor (DDF) for each SAMI site. The ASTRAP "Air Station" assigned to each SAMI site (and its location) are also included. The values are calculated from the 1990 values simulated by ASTRAP, and are used for the SAMI Reference Year. The table is arranged alphabetically in ascending order by SAMI ID. The number of sites is 164.

	DDF-S	dry/wt-S	occ/wt-S	DDF-N	dry/wt-N	occ/wt-N		
Average	1.96	0.62	0.34	2.13	0.76	0.37		
Std. Dev.	0.35	0.17	0.32	0.44	0.30	0.28		
Maximum	3.71	1.05	1.79	4.35	1.95	1.40		
Minimum	1.82	0.41	0.00	1.95	0.41	0.00		
Site ID	DDF-S	dry/wt-S	occ/wt-S	DDF-N	dry/wt-N	occ/wt-N	Air-Site Number	Air-Site Location
2A068015U	1.90	0.44	0.46	2.14	0.44	0.70	6	Cranberry NC
2A07701	1.93	0.60	0.33	2.14	0.74	0.40	11	Joyce Kilmer/Slickrock Wilderness NC
2A07805	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
2A07806	1.90	0.49	0.41	2.21	0.56	0.65	15	Shining Rock Wilderness NC
2A07810L	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
2A07810U	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
2A07811	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
2A07812	1.90	0.49	0.41	2.21	0.56	0.65	15	Shining Rock Wilderness NC
2A07816	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
2A07817	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
2A07821	1.90	0.49	0.41	2.21	0.56	0.65	15	Shining Rock Wilderness NC
2A07823	1.84	0.65	0.20	2.12	0.83	0.30	5	Coweeta NC
2A07828	1.84	0.65	0.20	2.12	0.83	0.30	5	Coweeta NC
2A07829	1.90	0.49	0.41	2.21	0.56	0.65	15	Shining Rock Wilderness NC
2A07834	1.84	0.65	0.20	2.12	0.83	0.30	5	Coweeta NC
2A07835	1.90	0.49	0.41	2.21	0.56	0.65	15	Shining Rock Wilderness NC
2A07882	1.90	0.49	0.41	2.21	0.56	0.65	15	Shining Rock Wilderness NC
2A08802	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
2A08804	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
2A08805	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
2A08810	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
2A08901	1.84	0.65	0.20	2.12	0.83	0.30	5	Coweeta NC
2B041020L	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
2B041049U	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
2B047032	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2B047044U	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2B047076L	1.85	0.85	0.00	1.99	0.99	0.00	3	Parsons WV
2B047076U	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
2B058015U	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
2C041033U	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C041039	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C041040	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C041043U	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
2C041045	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C041051	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C046013L	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C046033	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C046034	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C046043L	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV

Table L-3. Continued.								
Site ID	DDF-S	dry/wt-S	occ/wt-S	DDF-N	dry/wt-N	occ/wt-N	Air-Site Number	Air-Site Location
2C046043U	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C046050	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C046053L	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C046062L	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C047007	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C047010L	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C047010U	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
2C057004	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
2C066026L	2.22	1.03	0.18	2.24	1.12	0.13	17	Walker Branch TN
2C066027L	2.22	1.03	0.18	2.24	1.12	0.13	17	Walker Branch TN
2C066027U	2.22	1.03	0.18	2.24	1.12	0.13	17	Walker Branch TN
2C066039L	2.22	1.03	0.18	2.24	1.12	0.13	17	Walker Branch TN
2C077022U	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
BJ 35	1.90	0.44	0.46	2.14	0.44	0.70	6	Cranberry NC
BJ 72	1.89	0.41	0.48	2.18	0.41	0.76	13	Mt. Mitchell NC
BJ 76	1.89	0.41	0.48	2.18	0.41	0.76	13	Mt. Mitchell NC
BJ 77	1.89	0.41	0.48	2.18	0.41	0.76	13	Mt. Mitchell NC
BLFC	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
CO01	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
CO05	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
CO06	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
CO10	1.93	0.78	0.14	2.24	1.02	0.22	4	Cohutta Wilderness GA
DR	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
DR01	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
DS04	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
DS06	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
DS09	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
DS19	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
DS50	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
FN1	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
FN2	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
FN3	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
GS01	3.71	0.92	1.79	4.35	1.95	1.40	8	Elkmont - GSMNP NC
GS02	3.71	0.92	1.79	4.35	1.95	1.40	8	Elkmont - GSMNP NC
GS04	3.71	0.92	1.79	4.35	1.95	1.40	8	Elkmont - GSMNP NC
GS05	3.71	0.92	1.79	4.35	1.95	1.40	8	Elkmont - GSMNP NC
GS06	1.95	0.66	0.30	2.14	0.79	0.35	8	Elkmont - GSMNP NC
GS07	3.71	0.92	1.79	4.35	1.95	1.40	15	Shining Rock Wilderness NC
GS08	3.71	0.92	1.79	4.35	1.95	1.40	15	Shining Rock Wilderness NC
LB01	1.93	0.60	0.33	2.14	0.74	0.40	11	Joyce Kilmer/Slickrock Wilderness NC
LEWF	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
M037	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
M038	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
M039	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
NFD	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
NFDR	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
OC02	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
OC05	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV

Table L-3. Continued.

Site ID	DDF-S	dry/wt-S	occ/wt-S	DDF-N	dry/wt-N	occ/wt-N	Air-Site Number	Air-Site Location
OC08	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
OC09	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
OC31	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
OC32	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
OC35	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
OC79	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
PAIN	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
SP10	2.05	1.05	0.00	2.21	1.21	0.00	16	Sipsey Wilderness AL
SP39	2.05	1.05	0.00	2.21	1.21	0.00	16	Sipsey Wilderness AL
SP41	2.05	1.05	0.00	2.21	1.21	0.00	16	Sipsey Wilderness AL
STAN	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
VA524S	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VA526S	1.91	0.87	0.04	2.09	1.02	0.07	12	Lilley Cornett Woods KY
VA531S	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VA548S	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VA555S	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VA821S	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT02	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT05	1.90	0.44	0.46	2.14	0.44	0.70	6	Cranberry NC
VT07	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT08	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT09	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT10	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT11	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT12	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT15	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT18	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
VT19	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
VT20	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT24	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT25	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT26	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT28	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT29	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT31	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT32	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT34	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT35	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
VT36	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
VT37	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT38	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT39	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
VT41	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
VT46	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT48	1.99	0.44	0.55	2.08	0.49	0.59	9	Horton's Station VA
VT49	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
VT50	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
VT53	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA

Table L-3. Continued.

Site ID	DDF-S	dry/wt-S	occ/wt-S	DDF-N	dry/wt-N	occ/wt-N	Air-Site Number	Air-Site Location
VT54	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
VT55	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
VT56	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT57	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT58	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT59	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
VT62	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT66	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT68	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT70	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT72	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT73	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT74	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT75	1.82	0.41	0.41	1.96	0.44	0.51	2	Big Meadows - SNP VA
VT76	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT77	1.92	0.65	0.28	2.05	0.75	0.29	10	James Riverface Wilderness VA
VT78	1.90	0.44	0.46	2.14	0.44	0.70	6	Cranberry NC
WOR	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
WOR1	1.85	0.85	0.00	1.99	0.99	0.00	3	Charlottesville VA
WV523S	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV
WV531S	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
WV547S	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
WV548S	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
WV769S	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
WV770S	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
WV771S	1.84	0.62	0.23	1.95	0.75	0.20	14	Parsons WV
WV785S	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
WV788S	1.91	0.55	0.35	2.01	0.62	0.38	1	Babcock State Park WV
WV796S	1.84	0.47	0.37	1.95	0.57	0.38	7	Dolly Sods Wilderness WV

Table L-4. Total deposition (wet + dry + occult) of all ions for each SAMI site for the SAMI Reference Year (1995). These data were calculated from the Reference Year wet deposition values and the assigned dry and occult ratios. The deposition is in meq/m²/yr (the units used in the effects models). The table is arranged alphabetically in ascending order by SAMI ID. The number of sites is 164.

	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
Average	5.2	1.5	3.9	0.7	29.5	94.1	5.1	48.8	40.8	148.0	-107.2	134.1
Std. Dev.	1.6	0.3	1.5	0.2	10.2	32.5	1.5	17.3	11.7	50.0	39.3	26.1
Maximum	9.6	2.6	8.6	1.3	90.9	273.2	10.3	145.2	108.1	425.7	-53.6	252.3
Minimum	2.3	0.9	2.1	0.4	19.2	51.9	2.9	25.7	26.3	82.6	-317.5	93.2
Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
2A068015U	4.6	1.3	3.2	0.7	25.6	75.5	3.9	39.8	35.3	119.1	-83.8	126.8
2A07701	4.2	1.4	4.2	0.7	25.3	78.4	5.3	37.7	35.8	121.4	-85.6	128.3
2A07805	3.4	1.0	2.7	0.5	19.6	61.8	3.3	31.0	27.2	96.1	-68.8	116.0
2A07806	3.8	1.2	3.6	0.6	24.8	74.9	4.2	38.2	34.0	117.3	-83.3	147.8
2A07810L	3.9	1.1	2.8	0.6	21.6	66.7	3.4	34.3	29.9	104.4	-74.5	116.7
2A07810U	4.4	1.2	3.1	0.7	25.3	79.4	3.8	40.2	34.8	123.3	-88.6	136.2
2A07811	3.3	0.9	2.5	0.5	19.2	60.0	2.9	30.1	26.3	93.1	-66.8	105.4
2A07812	5.0	1.6	4.5	0.8	32.1	97.9	5.4	50.2	44.0	153.4	-109.4	186.2
2A07816	4.9	1.5	4.1	0.8	28.1	87.7	5.0	43.8	39.4	136.5	-97.2	151.8
2A07817	5.0	1.5	4.2	0.8	30.0	92.6	5.0	46.8	41.6	144.3	-102.8	164.9
2A07821	2.6	1.1	4.1	0.5	21.6	60.3	4.6	29.9	29.9	94.8	-64.8	128.3
2A07823	3.7	1.3	4.2	0.7	22.9	67.4	4.9	35.2	32.7	107.6	-74.8	136.8
2A07828	4.4	1.7	5.4	0.8	27.5	81.0	6.4	41.8	39.8	129.2	-89.5	163.6
2A07829	4.2	1.8	6.5	0.8	31.3	89.8	7.4	45.7	44.7	142.9	-98.2	197.2
2A07834	3.3	1.5	5.2	0.7	21.7	61.8	5.9	32.0	32.3	99.7	-67.5	137.9
2A07835	3.2	1.5	5.3	0.7	25.0	70.3	6.0	35.5	35.6	111.8	-76.2	151.4
2A07882	4.3	1.6	5.2	0.8	29.7	87.3	6.0	45.2	41.6	138.5	-96.9	182.9
2A08802	5.5	2.2	7.1	1.0	37.6	106.2	8.8	52.4	53.4	167.3	-113.9	183.3
2A08804	6.3	2.6	8.6	1.2	44.3	120.3	10.3	59.2	62.9	189.9	-127.0	208.1
2A08805	4.6	1.9	6.3	0.9	31.9	89.1	7.6	44.4	45.7	141.1	-95.5	159.2
2A08810	5.1	2.3	8.2	1.1	36.4	98.5	9.5	49.7	53.1	157.7	-104.6	192.9
2A08901	4.1	1.9	7.1	0.9	27.5	78.0	8.1	39.9	41.5	125.9	-84.4	172.3
2B041020L	4.1	1.3	2.4	0.6	28.1	82.2	4.3	42.9	36.5	129.5	-93.0	95.3
2B041049U	3.2	1.1	2.7	0.4	22.9	64.6	3.9	33.2	30.3	101.7	-71.4	93.2
2B047032	5.8	1.4	2.7	0.5	26.8	94.3	4.1	49.9	37.3	148.4	-111.1	124.3
2B047044U	5.4	1.4	2.9	0.6	26.3	91.5	4.2	48.4	36.6	144.1	-107.5	123.6
2B047076L	3.3	1.4	4.3	0.5	25.2	73.3	5.3	37.6	34.6	116.2	-81.6	113.2
2B047076U	3.7	1.7	5.4	0.5	29.2	84.5	6.5	43.5	40.5	134.5	-94.0	131.1
2B058015U	4.2	1.6	4.3	0.6	27.2	85.0	5.5	45.0	37.9	135.5	-97.6	117.7
2C041033U	8.8	1.9	2.7	0.9	35.4	136.4	5.1	70.3	49.6	211.8	-162.2	139.7
2C041039	8.2	1.7	2.4	0.7	31.4	122.2	4.4	63.2	44.3	189.7	-145.5	126.8
2C041040	7.7	1.6	2.3	0.7	30.3	115.8	4.2	60.3	42.6	180.4	-137.7	123.9
2C041043U	5.3	1.3	2.2	0.6	26.8	91.1	3.9	47.3	36.3	142.3	-106.0	107.6
2C041045	7.6	1.5	2.1	0.6	27.7	108.6	3.7	56.4	39.5	168.7	-129.2	114.3
2C041051	8.4	1.6	2.5	0.6	31.6	120.4	4.2	63.3	44.8	187.9	-143.1	133.5
2C046013L	6.3	1.4	2.4	0.6	27.2	101.6	3.9	54.4	38.0	159.9	-121.8	127.0
2C046033	5.9	1.4	2.5	0.6	26.8	96.9	3.9	52.6	37.2	153.4	-116.2	129.2
2C046034	6.5	1.6	2.9	0.7	29.9	107.7	4.4	57.9	41.6	170.0	-128.5	142.4
2C046043L	5.8	1.4	2.7	0.6	27.2	97.1	4.0	52.9	37.8	154.0	-116.2	133.6

Table L-4. Continued.

Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
2C046043U	5.8	1.4	2.6	0.6	26.9	96.1	4.0	52.3	37.4	152.3	-115.0	132.1
2C046050	4.5	1.1	2.1	0.5	21.9	75.5	3.1	42.7	30.1	121.3	-91.3	111.5
2C046053L	5.1	1.3	2.4	0.6	24.3	85.5	3.5	47.0	33.7	136.0	-102.4	121.6
2C046062L	5.0	1.2	2.4	0.6	23.7	81.7	3.5	45.3	33.0	130.5	-97.5	120.1
2C047007	6.7	1.4	2.4	0.6	27.1	101.8	3.8	53.6	38.2	159.2	-121.0	122.5
2C047010L	6.7	1.5	2.8	0.6	29.1	105.3	4.4	55.9	40.7	165.5	-124.8	135.4
2C047010U	6.7	1.6	2.9	0.6	29.4	106.3	4.4	56.4	41.2	167.2	-126.0	137.0
2C057004	4.3	1.1	2.1	0.5	21.4	72.3	3.0	41.4	29.3	116.7	-87.4	111.9
2C066026L	6.6	2.0	4.9	0.8	36.0	128.8	7.1	54.1	50.2	190.0	-139.7	148.5
2C066027L	6.6	1.9	4.8	0.8	35.3	129.8	7.0	54.4	49.4	191.2	-141.9	148.1
2C066027U	6.7	2.0	4.8	0.8	35.6	131.3	7.1	54.9	49.9	193.3	-143.4	149.9
2C066039L	6.6	2.0	5.3	0.8	37.1	133.0	7.6	55.1	51.9	195.7	-143.9	155.5
2C077022U	6.3	2.1	6.5	0.9	40.3	112.4	8.4	54.0	56.1	174.8	-118.7	166.0
BJ 35	3.9	1.3	4.0	0.6	26.3	77.5	4.6	38.5	36.1	120.6	-84.5	152.1
BJ 72	3.9	1.7	5.8	0.8	28.9	84.1	6.6	42.1	41.0	132.7	-91.8	185.0
BJ 76	4.0	1.4	4.5	0.7	25.9	76.6	5.3	39.8	36.5	121.6	-85.1	152.4
BJ 77	3.7	1.5	4.9	0.7	26.3	76.4	5.6	38.9	37.1	121.0	-83.9	162.2
BLFC	4.1	1.5	4.0	0.7	26.0	79.5	5.1	42.0	36.4	126.6	-90.2	112.5
CO01	5.1	2.0	6.6	1.0	36.0	98.9	8.0	48.5	50.7	155.4	-104.7	163.1
CO05	4.1	1.6	5.1	0.7	28.0	77.2	6.2	37.8	39.5	121.3	-81.8	127.0
CO06	6.2	2.4	8.0	1.1	42.3	118.8	9.8	58.3	60.1	186.9	-126.8	201.6
CO10	4.5	1.7	5.6	0.8	30.7	85.1	6.9	41.8	43.3	133.8	-90.6	141.1
DR	3.5	1.5	4.8	0.5	26.9	78.6	5.9	40.7	37.3	125.3	-88.0	120.6
DR01	3.5	1.5	4.8	0.5	26.9	78.6	5.9	40.7	37.3	125.3	-88.0	120.6
DS04	6.9	1.6	2.8	0.6	30.0	106.2	4.4	56.8	41.8	167.4	-125.6	133.9
DS06	6.9	1.6	2.8	0.6	30.0	106.2	4.4	56.8	41.8	167.4	-125.6	133.9
DS09	6.9	1.6	2.8	0.6	30.0	106.2	4.4	56.8	41.8	167.4	-125.6	133.9
DS19	6.9	1.6	2.8	0.6	30.0	106.2	4.4	56.8	41.8	167.4	-125.6	133.9
DS50	6.9	1.6	2.8	0.6	30.0	106.2	4.4	56.8	41.8	167.4	-125.6	133.9
FN1	9.6	1.8	2.7	0.7	34.8	135.7	4.6	70.9	49.6	211.1	-161.5	146.3
FN2	9.3	1.8	2.7	0.7	33.8	132.0	4.5	69.0	48.3	205.5	-157.2	142.6
FN3	9.6	1.8	2.7	0.7	34.8	136.0	4.6	71.0	49.7	211.7	-162.0	147.3
GS01	7.6	2.3	6.1	1.3	90.9	273.2	7.3	145.2	108.1	425.7	-317.5	252.3
GS02	7.6	2.3	6.1	1.3	90.9	273.1	7.3	145.1	108.1	425.6	-317.4	252.3
GS04	6.4	1.9	4.9	1.1	77.3	232.0	6.0	123.2	91.6	361.1	-269.6	210.9
GS05	5.1	1.4	3.5	0.8	56.8	165.8	4.2	91.2	67.5	261.2	-193.7	153.1
GS06	3.5	1.0	2.5	0.5	19.9	61.8	3.0	31.5	27.3	96.2	-68.9	107.9
GS07	4.9	1.5	4.3	0.8	62.1	182.0	5.1	96.3	73.6	283.4	-209.8	175.4
GS08	5.5	1.7	4.8	0.9	69.2	204.7	5.6	108.1	82.1	318.4	-236.3	195.9
LB01	4.6	1.6	4.6	0.8	28.1	87.6	5.8	42.1	39.6	135.5	-95.9	142.3
LEWF	4.8	1.5	3.5	0.8	26.6	81.1	4.3	40.6	37.2	126.0	-88.8	136.2
M037	4.1	1.5	4.0	0.7	26.0	79.5	5.1	42.0	36.4	126.6	-90.2	112.5
M038	4.1	1.5	4.0	0.7	26.0	79.5	5.1	42.0	36.4	126.6	-90.2	112.5
M039	4.1	1.5	4.0	0.7	26.0	79.5	5.1	42.0	36.4	126.6	-90.2	112.5
NFD	3.5	1.7	6.4	0.5	29.7	74.7	7.1	37.2	41.9	119.0	-77.1	146.2
NFDR	3.5	1.7	6.4	0.5	29.7	74.7	7.1	37.2	41.9	119.0	-77.1	146.2
OC02	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
OC05	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0

Table L-4. Continued.

Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
OC08	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
OC09	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
OC31	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
OC32	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
OC35	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
OC79	8.1	1.6	2.6	0.6	31.2	118.2	4.3	62.2	44.2	184.7	-140.6	136.0
PAIN	3.5	1.6	5.1	0.5	27.1	81.2	6.2	42.6	37.8	130.0	-92.1	120.0
SP10	5.2	2.1	7.5	0.8	33.1	77.8	8.5	40.6	48.8	126.8	-78.0	155.1
SP39	5.3	2.1	7.6	0.8	34.0	80.2	8.6	41.7	49.9	130.4	-80.6	158.6
SP41	5.3	2.1	7.6	0.8	33.6	78.6	8.6	41.3	49.5	128.5	-79.0	157.9
STAN	2.6	1.4	5.8	0.4	23.3	59.4	6.1	29.5	33.5	94.9	-61.4	114.8
VA524S	5.3	1.4	2.6	1.0	23.2	76.8	3.4	39.4	33.5	119.5	-86.0	111.2
VA526S	5.7	1.2	2.5	0.5	21.7	73.7	3.1	40.1	31.7	116.9	-85.2	119.7
VA531S	2.3	1.2	4.6	0.4	20.6	51.9	5.0	25.7	29.0	82.6	-53.6	100.2
VA548S	3.1	1.2	3.7	0.4	23.9	64.0	4.6	32.3	32.5	100.9	-68.4	114.5
VA555S	4.4	1.4	3.4	0.6	25.6	83.7	4.6	44.7	35.3	133.0	-97.6	115.5
VA821S	4.6	1.3	2.6	0.9	21.7	68.6	3.3	35.1	31.1	107.0	-75.9	104.1
VT02	4.8	1.5	3.5	0.8	26.6	81.1	4.3	40.6	37.2	126.0	-88.8	136.2
VT05	4.3	1.3	3.0	0.7	24.0	69.3	3.7	37.1	33.3	110.1	-76.8	117.3
VT07	5.3	1.4	3.0	0.8	25.8	83.0	3.8	42.2	36.2	129.0	-92.8	128.9
VT08	5.1	1.3	2.9	0.8	24.5	79.1	3.6	40.4	34.6	123.1	-88.5	124.0
VT09	5.2	1.4	2.9	0.8	25.3	82.1	3.7	41.6	35.5	127.4	-91.8	128.1
VT10	4.8	1.4	3.1	0.6	25.8	86.6	4.3	46.6	35.6	137.6	-101.9	118.6
VT11	5.1	1.5	3.4	0.7	27.6	91.1	4.7	49.5	38.4	145.3	-106.9	128.2
VT12	4.8	1.4	3.3	0.6	26.1	86.0	4.5	46.7	36.3	137.2	-100.9	121.2
VT15	4.5	1.3	3.0	0.6	24.2	79.6	4.2	43.2	33.7	126.9	-93.3	112.2
VT18	6.1	1.5	3.1	0.6	28.6	100.4	4.5	53.7	40.0	158.6	-118.6	135.4
VT19	6.3	1.6	3.1	0.6	29.3	102.8	4.7	54.9	40.9	162.3	-121.4	138.7
VT20	4.3	1.3	3.0	0.7	22.5	72.1	3.9	38.8	31.7	114.8	-83.1	105.5
VT24	4.6	1.3	2.8	0.8	22.9	74.6	3.7	39.6	32.3	117.9	-85.6	108.0
VT25	4.6	1.4	2.9	0.8	23.2	75.9	3.9	40.1	33.0	119.9	-86.9	110.3
VT26	5.3	1.4	2.6	1.0	23.3	77.1	3.4	39.6	33.7	120.2	-86.5	111.9
VT28	5.2	1.4	2.6	1.0	22.9	75.4	3.4	39.1	33.0	117.8	-84.9	109.8
VT29	5.5	1.5	2.9	1.1	24.3	79.0	3.7	41.0	35.4	123.8	-88.4	116.9
VT31	5.0	1.4	2.7	0.9	23.1	74.8	3.4	38.2	33.1	116.4	-83.3	111.4
VT32	5.7	1.5	2.8	1.2	24.5	80.5	3.6	41.1	35.7	125.2	-89.5	117.1
VT34	4.0	1.4	3.4	0.6	24.5	78.1	4.6	41.7	33.9	124.3	-90.4	108.4
VT35	3.5	1.6	5.1	0.5	27.1	81.2	6.2	42.6	37.8	130.0	-92.1	120.0
VT36	3.9	1.8	5.7	0.6	29.4	88.4	7.1	46.7	41.3	142.2	-100.9	130.2
VT37	4.7	1.5	3.5	0.5	26.7	85.3	4.8	45.4	36.9	135.5	-98.6	125.3
VT38	4.9	1.6	3.8	0.6	27.8	89.4	5.1	48.0	38.6	142.6	-104.0	131.7
VT39	4.1	1.7	5.1	0.6	28.4	86.5	6.4	46.6	39.9	139.5	-99.6	122.9
VT41	4.3	1.8	5.0	0.6	29.2	89.7	6.4	48.1	40.9	144.3	-103.4	126.9
VT46	4.0	1.7	4.9	0.6	27.3	84.2	6.1	45.2	38.6	135.5	-96.9	118.9
VT48	4.7	1.5	3.2	1.0	25.1	75.4	4.0	37.7	35.5	117.0	-81.5	111.5
VT49	3.4	1.2	2.9	0.4	23.5	67.2	4.1	34.2	31.4	105.5	-74.1	103.4
VT50	3.4	1.1	2.8	0.4	22.7	66.2	3.9	33.7	30.5	103.9	-73.4	101.4
VT53	3.2	1.5	4.8	0.5	26.1	74.0	5.8	37.9	36.2	117.7	-81.6	118.7

Table L-4. Continued.

Site ID	Ca	Mg	Na	K	NH ₄	SO ₄	Cl	NO ₃	SBC	SAA	Calk	Precip Vol (cm/yr)
VT54	4.8	1.5	3.5	0.5	28.3	88.2	4.9	45.8	38.7	138.9	-100.2	132.3
VT55	4.1	1.3	3.0	0.5	24.8	76.6	4.2	39.2	33.7	120.0	-86.3	114.6
VT56	4.1	1.3	3.3	0.5	24.9	77.8	4.5	40.9	34.2	123.2	-89.0	115.1
VT57	3.8	1.3	3.2	0.5	23.4	72.6	4.3	38.1	32.1	115.0	-82.9	109.9
VT58	2.5	1.3	5.0	0.4	22.0	55.2	5.4	27.4	31.1	88.0	-56.9	107.9
VT59	2.6	1.4	5.8	0.4	23.3	59.4	6.1	29.5	33.5	94.9	-61.4	114.8
VT62	2.8	1.4	5.1	0.4	24.5	61.9	5.7	30.8	34.2	98.4	-64.1	117.4
VT66	2.6	1.4	5.7	0.4	23.0	57.3	5.9	28.3	33.1	91.5	-58.4	117.1
VT68	4.4	1.9	5.4	0.6	30.8	95.5	6.9	51.0	43.2	153.3	-110.1	131.4
VT70	4.2	1.8	5.2	0.6	29.5	91.7	6.6	49.0	41.4	147.3	-105.9	126.9
VT72	4.6	1.9	5.4	0.7	31.6	98.3	6.9	52.4	44.1	157.6	-113.4	136.1
VT73	4.5	1.8	5.3	0.7	30.7	95.6	6.7	50.9	43.0	153.1	-110.2	131.6
VT74	4.3	1.8	5.1	0.6	30.2	93.8	6.5	49.8	42.0	150.1	-108.1	128.2
VT75	2.6	1.4	5.5	0.4	23.1	57.8	5.9	28.7	33.0	92.4	-59.3	116.1
VT76	4.1	1.5	4.0	0.7	26.0	79.5	5.1	42.0	36.4	126.6	-90.2	112.5
VT77	4.2	1.6	4.3	0.7	26.9	81.3	5.4	43.4	37.7	130.1	-92.5	116.3
VT78	4.8	1.3	2.8	0.7	24.0	73.0	3.5	39.7	33.6	116.2	-82.6	122.7
WOR	3.6	1.6	5.2	0.5	28.0	82.7	6.4	43.0	39.0	132.0	-93.0	123.7
WOR1	3.6	1.6	5.2	0.5	28.0	82.7	6.4	43.0	39.0	132.0	-93.0	123.7
WV523S	8.4	1.9	3.3	0.8	38.0	133.5	5.5	70.7	52.4	209.7	-157.3	159.9
WV531S	8.3	1.6	2.5	0.6	31.5	121.5	4.2	62.5	44.5	188.2	-143.7	132.1
WV547S	5.9	1.4	2.5	0.6	26.4	96.1	3.8	52.1	36.7	152.0	-115.2	126.6
WV548S	5.6	1.3	2.5	0.6	25.9	92.4	3.8	50.4	35.9	146.6	-110.6	127.8
WV769S	8.1	1.7	2.7	0.7	31.6	120.9	4.4	63.6	44.7	188.9	-144.2	140.2
WV770S	6.6	1.4	2.4	0.6	27.1	101.5	3.8	53.2	38.1	158.5	-120.5	122.9
WV771S	7.4	1.4	2.1	0.6	27.3	106.9	3.7	55.3	38.8	165.9	-127.2	112.2
WV785S	4.5	1.1	2.1	0.6	20.5	69.1	3.0	38.0	28.7	110.1	-81.4	107.8
WV788S	6.0	1.4	2.6	0.6	27.3	99.2	4.0	53.7	38.0	156.9	-118.9	132.0
WV796S	7.6	1.7	3.0	0.7	33.8	118.7	4.9	62.8	46.9	186.5	-139.6	146.8

Table L-5. The components of SO₄, NO₃, and NH₄ deposition (wet, dry, occult, and total) for each SAMI site for the SAMI Reference Year (1995). These data were calculated from the Reference Year wet deposition values and the assigned dry-to-wet and occult-to-wet ratios from the ASTRAP model (except for the high elevation sites in the Great Smoky Mountains National Park which use ratios from the Integrated Forestry Study). The deposition is in meq/m²/yr (the units used in the effects models). The table is arranged alphabetically in ascending order by SAMI ID. The number of sites is 164.

	SO ₄ Wet	SO ₄ Dry	SO ₄ Occult	SO ₄ Total	NO ₃ Wet	NO ₃ Dry	NO ₃ Occult	NO ₃ Total	NH ₄ Wet	NH ₄ Dry	NH ₄ Occult	NH ₄ Total
Average	47.5	30.0	16.6	94.1	22.8	17.8	8.2	48.8	13.7	10.8	5.0	29.5
Std. Dev.	10.8	11.5	19.1	32.5	5.4	9.2	7.0	17.3	2.3	5.8	4.4	10.2
Maximum	74.0	67.7	131.8	273.2	36.4	65.1	46.7	145.2	20.9	40.7	29.3	90.9
Minimum	28.6	11.7	0.0	51.9	13.1	5.8	0.0	25.7	9.0	4.7	0.0	19.2
Site ID	SO ₄ Wet	SO ₄ Dry	SO ₄ Occult	SO ₄ Total	NO ₃ Wet	NO ₃ Dry	NO ₃ Occult	NO ₃ Total	NH ₄ Wet	NH ₄ Dry	NH ₄ Occult	NH ₄ Total
2A068015U	39.8	17.5	18.2	75.5	18.6	8.2	13.0	39.8	12.0	5.3	8.3	25.6
2A07701	40.5	24.5	13.4	78.4	17.6	13.1	7.0	37.7	11.8	8.8	4.7	25.3
2A07805	31.6	20.7	9.4	61.8	14.5	11.5	5.0	31.0	9.2	7.3	3.2	19.6
2A07806	39.4	19.3	16.3	74.9	17.3	9.8	11.1	38.2	11.2	6.3	7.2	24.8
2A07810L	34.2	22.4	10.2	66.7	16.0	12.7	5.5	34.3	10.1	8.0	3.5	21.6
2A07810U	40.7	26.7	12.1	79.4	18.8	14.9	6.5	40.2	11.9	9.4	4.1	25.3
2A07811	30.7	20.2	9.1	60.0	14.1	11.2	4.9	30.1	9.0	7.1	3.1	19.2
2A07812	51.5	25.2	21.3	97.9	22.7	12.8	14.7	50.2	14.5	8.2	9.4	32.1
2A07816	44.9	29.4	13.4	87.7	20.5	16.2	7.1	43.8	13.2	10.4	4.6	28.1
2A07817	47.4	31.1	14.1	92.6	21.9	17.3	7.6	46.8	14.0	11.1	4.8	30.0
2A07821	31.7	15.5	13.1	60.3	13.5	7.6	8.7	29.9	9.8	5.5	6.3	21.6
2A07823	36.6	23.6	7.2	67.4	16.6	13.7	4.9	35.2	10.8	8.9	3.2	22.9
2A07828	44.0	28.4	8.7	81.0	19.7	16.3	5.9	41.8	12.9	10.7	3.9	27.5
2A07829	47.2	23.1	19.5	89.8	20.7	11.7	13.4	45.7	14.1	8.0	9.1	31.3
2A07834	33.6	21.7	6.6	61.8	15.1	12.4	4.5	32.0	10.2	8.4	3.0	21.7
2A07835	37.0	18.1	15.3	70.3	16.1	9.1	10.4	35.5	11.3	6.4	7.3	25.0
2A07882	45.9	22.5	19.0	87.3	20.5	11.5	13.2	45.2	13.4	7.6	8.7	29.7
2A08802	55.1	43.2	7.9	106.2	23.4	23.9	5.1	52.4	16.8	17.1	3.6	37.6
2A08804	62.5	48.9	8.9	120.3	26.5	27.0	5.7	59.2	19.8	20.2	4.3	44.3
2A08805	46.3	36.2	6.6	89.1	19.9	20.3	4.3	44.4	14.3	14.6	3.1	31.9
2A08810	51.1	40.0	7.3	98.5	22.2	22.7	4.8	49.7	16.3	16.6	3.5	36.4
2A08901	42.3	27.3	8.3	78.0	18.8	15.5	5.6	39.9	12.9	10.7	3.9	27.5
2B041020L	44.8	21.0	16.5	82.2	22.0	12.6	8.3	42.9	14.4	8.2	5.4	28.1
2B041049U	35.2	16.5	12.9	64.6	17.0	9.8	6.4	33.2	11.7	6.7	4.4	22.9
2B047032	51.2	31.6	11.5	94.3	25.6	19.2	5.2	49.9	13.7	10.3	2.8	26.8
2B047044U	49.7	30.6	11.2	91.5	24.8	18.6	5.0	48.4	13.5	10.1	2.7	26.3
2B047076L	39.7	33.6	0.0	73.3	18.9	18.7	0.0	37.6	12.7	12.6	0.0	25.2
2B047076U	45.7	38.7	0.0	84.5	21.9	21.7	0.0	43.5	14.7	14.5	0.0	29.2
2B058015U	44.1	28.6	12.2	85.0	22.0	16.6	6.5	45.0	13.3	10.0	3.9	27.2
2C041033U	74.0	45.7	16.7	136.4	36.0	27.0	7.3	70.3	18.1	13.6	3.7	35.4
2C041039	66.3	40.9	15.0	122.2	32.3	24.3	6.5	63.2	16.0	12.1	3.2	31.4
2C041040	62.8	38.8	14.2	115.8	30.9	23.2	6.2	60.3	15.5	11.7	3.1	30.3
2C041043U	49.6	23.3	18.3	91.1	24.2	13.9	9.1	47.3	13.8	7.9	5.2	26.8
2C041045	58.9	36.4	13.3	108.6	28.9	21.7	5.8	56.4	14.2	10.7	2.9	27.7
2C041051	65.3	40.3	14.7	120.4	32.4	24.4	6.5	63.3	16.2	12.1	3.3	31.6
2C046013L	53.3	29.5	18.7	101.6	27.1	16.9	10.3	54.4	13.6	8.5	5.2	27.2
2C046033	50.8	28.2	17.9	96.9	26.2	16.4	10.0	52.6	13.4	8.3	5.1	26.8

Table L-5. Continued.

Site ID	SO ₄ Wet	SO ₄ Dry	SO ₄ Occult	SO ₄ Total	NO ₃ Wet	NO ₃ Dry	NO ₃ Occult	NO ₃ Total	NH ₄ Wet	NH ₄ Dry	NH ₄ Occult	NH ₄ Total
2C046034	56.5	31.3	19.9	107.7	28.9	18.0	11.0	57.9	14.9	9.3	5.7	29.9
2C046043L	51.0	28.2	17.9	97.1	26.4	16.5	10.1	52.9	13.6	8.5	5.2	27.2
2C046043U	50.4	28.0	17.7	96.1	26.1	16.3	9.9	52.3	13.4	8.4	5.1	26.9
2C046050	39.6	22.0	13.9	75.5	21.3	13.3	8.1	42.7	10.9	6.8	4.2	21.9
2C046053L	44.8	24.9	15.8	85.5	23.5	14.6	8.9	47.0	12.1	7.6	4.6	24.3
2C046062L	42.9	23.8	15.1	81.7	22.6	14.1	8.6	45.3	11.8	7.4	4.5	23.7
2C047007	55.2	34.1	12.5	101.8	27.4	20.6	5.5	53.6	13.9	10.4	2.8	27.1
2C047010L	57.1	35.2	12.9	105.3	28.6	21.5	5.8	55.9	14.9	11.2	3.0	29.1
2C047010U	57.7	35.6	13.0	106.3	28.9	21.7	5.8	56.4	15.1	11.3	3.0	29.4
2C057004	37.9	21.0	13.3	72.3	20.6	12.9	7.9	41.4	10.7	6.7	4.1	21.4
2C066026L	58.1	59.9	10.7	128.8	24.1	27.0	3.0	54.1	16.0	17.9	2.0	36.0
2C066027L	58.6	60.4	10.8	129.8	24.3	27.1	3.0	54.4	15.7	17.6	2.0	35.3
2C066027U	59.2	61.1	10.9	131.3	24.5	27.4	3.1	54.9	15.9	17.8	2.0	35.6
2C066039L	60.0	61.9	11.1	133.0	24.6	27.5	3.1	55.1	16.5	18.5	2.1	37.1
2C077022U	58.4	45.7	8.4	112.4	24.2	24.7	5.2	54.0	18.0	18.4	3.9	40.3
BJ 35	40.8	17.9	18.7	77.5	18.0	7.9	12.6	38.5	12.3	5.4	8.6	26.3
BJ 72	44.5	18.4	21.2	84.1	19.3	8.0	14.7	42.1	13.3	5.5	10.1	28.9
BJ 76	40.5	16.7	19.3	76.6	18.3	7.6	13.9	39.8	11.9	4.9	9.1	25.9
BJ 77	40.5	16.7	19.3	76.4	17.9	7.4	13.6	38.9	12.1	5.0	9.2	26.3
BLFC	41.3	26.8	11.4	79.5	20.6	15.5	6.0	42.0	12.7	9.6	3.7	26.0
CO01	51.3	40.2	7.4	98.9	21.7	22.1	4.7	48.5	16.1	16.4	3.5	36.0
CO05	40.1	31.4	5.7	77.2	16.9	17.3	3.6	37.8	12.5	12.8	2.7	28.0
CO06	61.7	48.3	8.8	118.8	26.1	26.6	5.6	58.3	18.9	19.3	4.1	42.3
CO10	44.2	34.6	6.3	85.1	18.7	19.1	4.0	41.8	13.7	14.0	3.0	30.7
DR	42.6	36.1	0.0	78.6	20.4	20.2	0.0	40.7	13.5	13.4	0.0	26.9
DR01	42.6	36.1	0.0	78.6	20.4	20.2	0.0	40.7	13.5	13.4	0.0	26.9
DS04	57.8	27.1	21.3	106.2	29.2	16.7	11.0	56.8	15.4	8.8	5.8	30.0
DS06	57.8	27.1	21.3	106.2	29.2	16.7	11.0	56.8	15.4	8.8	5.8	30.0
DS09	57.8	27.1	21.3	106.2	29.2	16.7	11.0	56.8	15.4	8.8	5.8	30.0
DS19	57.8	27.1	21.3	106.2	29.2	16.7	11.0	56.8	15.4	8.8	5.8	30.0
DS50	57.8	27.1	21.3	106.2	29.2	16.7	11.0	56.8	15.4	8.8	5.8	30.0
FN1	73.6	45.4	16.6	135.7	36.3	27.3	7.3	70.9	17.8	13.4	3.6	34.8
FN2	71.6	44.2	16.2	132.0	35.3	26.5	7.1	69.0	17.3	13.0	3.5	33.8
FN3	73.8	45.6	16.7	136.0	36.4	27.3	7.3	71.0	17.8	13.4	3.6	34.8
GS01	73.6	67.7	131.8	273.2	33.4	65.1	46.7	145.2	20.9	40.7	29.3	90.9
GS02	73.6	67.7	131.8	273.1	33.4	65.1	46.7	145.1	20.9	40.7	29.2	90.9
GS04	62.5	57.5	111.9	232.0	28.3	55.2	39.7	123.2	17.8	34.6	24.9	77.3
GS05	44.7	41.1	80.0	165.8	21.0	40.9	29.4	91.2	13.0	25.4	18.3	56.8
GS06	31.6	20.7	9.4	61.8	14.7	11.7	5.1	31.5	9.3	7.4	3.2	19.9
GS07	49.1	45.1	87.8	182.0	22.1	43.2	31.0	96.3	14.3	27.8	20.0	62.1
GS08	55.2	50.8	98.8	204.7	24.9	48.5	34.8	108.1	15.9	31.0	22.3	69.2
LB01	45.3	27.3	15.0	87.6	19.7	14.6	7.9	42.1	13.1	9.7	5.2	28.1
LEWF	42.1	27.3	11.6	81.1	19.9	14.9	5.8	40.6	13.0	9.8	3.8	26.6
M037	41.3	26.8	11.4	79.5	20.6	15.5	6.0	42.0	12.7	9.6	3.7	26.0
M038	41.3	26.8	11.4	79.5	20.6	15.5	6.0	42.0	12.7	9.6	3.7	26.0
M039	41.3	26.8	11.4	79.5	20.6	15.5	6.0	42.0	12.7	9.6	3.7	26.0
NFD	41.1	16.8	16.8	74.7	19.0	8.4	9.8	37.2	15.2	6.7	7.8	29.7
NFDR	41.1	16.8	16.8	74.7	19.0	8.4	9.8	37.2	15.2	6.7	7.8	29.7

Table L-5. Continued.

Site ID	SO ₄ Wet	SO ₄ Dry	SO ₄ Occult	SO ₄ Total	NO ₃ Wet	NO ₃ Dry	NO ₃ Occult	NO ₃ Total	NH ₄ Wet	NH ₄ Dry	NH ₄ Occult	NH ₄ Total
OC02	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC05	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC08	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC09	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC31	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC32	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC35	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
OC79	64.1	39.6	14.5	118.2	31.9	24.0	6.4	62.2	15.9	12.0	3.2	31.2
PAIN	43.9	37.2	0.0	81.2	21.4	21.2	0.0	42.6	13.6	13.5	0.0	27.1
SP10	38.0	39.8	0.0	77.8	18.3	22.3	0.0	40.6	15.0	18.2	0.0	33.1
SP39	39.2	41.0	0.0	80.2	18.8	22.9	0.0	41.7	15.4	18.6	0.0	34.0
SP41	38.4	40.2	0.0	78.6	18.7	22.6	0.0	41.3	15.2	18.4	0.0	33.6
STAN	32.1	27.2	0.0	59.4	14.8	14.7	0.0	29.5	11.7	11.6	0.0	23.3
VA524S	38.7	16.8	21.3	76.8	18.9	9.3	11.1	39.4	11.1	5.5	6.6	23.2
VA526S	38.5	33.5	1.7	73.7	19.2	19.5	1.4	40.1	10.4	10.6	0.8	21.7
VA531S	28.6	11.7	11.7	51.9	13.1	5.8	6.7	25.7	10.5	4.7	5.4	20.6
VA548S	35.2	14.4	14.4	64.0	16.5	7.3	8.5	32.3	12.2	5.4	6.3	23.9
VA555S	43.5	28.2	12.0	83.7	21.8	16.4	6.4	44.7	12.5	9.4	3.7	25.6
VA821S	34.5	15.0	19.0	68.6	16.8	8.3	9.9	35.1	10.4	5.1	6.1	21.7
VT02	42.1	27.3	11.6	81.1	19.9	14.9	5.8	40.6	13.0	9.8	3.8	26.6
VT05	36.6	16.0	16.7	69.3	17.3	7.6	12.1	37.1	11.2	4.9	7.8	24.0
VT07	41.8	18.2	23.0	83.0	20.3	10.0	11.9	42.2	12.4	6.1	7.3	25.8
VT08	39.8	17.3	21.9	79.1	19.4	9.6	11.4	40.4	11.8	5.8	6.9	24.5
VT09	41.3	18.0	22.7	82.1	19.9	9.9	11.8	41.6	12.1	6.0	7.1	25.3
VT10	45.0	29.2	12.4	86.6	22.8	17.1	6.7	46.6	12.6	9.5	3.7	25.8
VT11	47.3	30.7	13.1	91.1	24.2	18.2	7.1	49.5	13.5	10.1	4.0	27.6
VT12	44.7	29.0	12.3	86.0	22.9	17.2	6.7	46.7	12.8	9.6	3.7	26.1
VT15	41.4	26.8	11.4	79.6	21.1	15.9	6.2	43.2	11.9	8.9	3.5	24.2
VT18	54.5	33.6	12.3	100.4	27.5	20.7	5.5	53.7	14.6	11.0	3.0	28.6
VT19	55.8	34.4	12.6	102.8	28.1	21.1	5.7	54.9	15.0	11.3	3.0	29.3
VT20	37.4	24.3	10.3	72.1	19.0	14.3	5.6	38.8	11.0	8.3	3.2	22.5
VT24	37.6	16.4	20.7	74.6	19.0	9.4	11.2	39.6	11.0	5.4	6.5	22.9
VT25	38.2	16.6	21.0	75.9	19.3	9.5	11.4	40.1	11.2	5.5	6.6	23.2
VT26	38.8	16.9	21.4	77.1	19.0	9.4	11.2	39.6	11.2	5.5	6.6	23.3
VT28	38.0	16.5	20.9	75.4	18.7	9.3	11.0	39.1	11.0	5.4	6.5	22.9
VT29	39.8	17.3	21.9	79.0	19.7	9.7	11.6	41.0	11.7	5.8	6.9	24.3
VT31	37.7	16.4	20.7	74.8	18.3	9.1	10.8	38.2	11.1	5.5	6.5	23.1
VT32	40.5	17.7	22.3	80.5	19.7	9.7	11.6	41.1	11.8	5.8	6.9	24.5
VT34	40.6	26.3	11.2	78.1	20.4	15.3	6.0	41.7	12.0	9.0	3.5	24.5
VT35	43.9	37.2	0.0	81.2	21.4	21.2	0.0	42.6	13.6	13.5	0.0	27.1
VT36	47.9	40.6	0.0	88.4	23.5	23.2	0.0	46.7	14.8	14.6	0.0	29.4
VT37	46.9	19.2	19.1	85.3	23.2	10.3	11.9	45.4	13.7	6.1	7.0	26.7
VT38	49.2	20.2	20.1	89.4	24.5	10.9	12.6	48.0	14.2	6.3	7.3	27.8
VT39	46.8	39.7	0.0	86.5	23.4	23.2	0.0	46.6	14.3	14.1	0.0	28.4
VT41	48.6	41.2	0.0	89.7	24.2	23.9	0.0	48.1	14.7	14.5	0.0	29.2
VT46	43.7	28.4	12.1	84.2	22.1	16.6	6.5	45.2	13.4	10.0	3.9	27.3
VT48	37.9	16.5	20.9	75.4	18.1	8.9	10.6	37.7	12.0	6.0	7.1	25.1
VT49	36.6	17.1	13.5	67.2	17.6	10.1	6.6	34.2	12.0	6.9	4.5	23.5

Table L-5. Continued.

Site ID	SO ₄ Wet	SO ₄ Dry	SO ₄ Occult	SO ₄ Total	NO ₃ Wet	NO ₃ Dry	NO ₃ Occult	NO ₃ Total	NH ₄ Wet	NH ₄ Dry	NH ₄ Occult	NH ₄ Total
VT50	36.1	16.9	13.3	66.2	17.3	9.9	6.5	33.7	11.7	6.7	4.4	22.7
VT53	40.1	34.0	0.0	74.0	19.0	18.8	0.0	37.9	13.1	13.0	0.0	26.1
VT54	48.0	22.5	17.7	88.2	23.5	13.5	8.8	45.8	14.5	8.3	5.5	28.3
VT55	41.7	19.5	15.3	76.6	20.1	11.5	7.6	39.2	12.7	7.3	4.8	24.8
VT56	42.8	17.5	17.5	77.8	20.9	9.3	10.7	40.9	12.7	5.6	6.5	24.9
VT57	40.0	16.4	16.3	72.6	19.5	8.6	10.0	38.1	12.0	5.3	6.1	23.4
VT58	30.4	12.5	12.4	55.2	14.0	6.2	7.2	27.4	11.2	5.0	5.8	22.0
VT59	32.1	27.2	0.0	59.4	14.8	14.7	0.0	29.5	11.7	11.6	0.0	23.3
VT62	34.0	14.0	13.9	61.9	15.8	7.0	8.1	30.8	12.5	5.6	6.4	24.5
VT66	31.5	12.9	12.9	57.3	14.4	6.4	7.4	28.3	11.8	5.2	6.0	23.0
VT68	49.6	32.2	13.7	95.5	24.9	18.7	7.3	51.0	15.1	11.3	4.4	30.8
VT70	47.6	30.9	13.2	91.7	24.0	18.0	7.0	49.0	14.4	10.9	4.2	29.5
VT72	51.1	33.1	14.1	98.3	25.6	19.3	7.5	52.4	15.4	11.6	4.5	31.6
VT73	49.7	32.2	13.7	95.6	24.9	18.7	7.3	50.9	15.0	11.3	4.4	30.7
VT74	48.7	31.6	13.5	93.8	24.4	18.3	7.1	49.8	14.7	11.1	4.3	30.2
VT75	31.8	13.0	13.0	57.8	14.7	6.5	7.5	28.7	11.8	5.2	6.1	23.1
VT76	41.3	26.8	11.4	79.5	20.6	15.5	6.0	42.0	12.7	9.6	3.7	26.0
VT77	42.3	27.4	11.7	81.3	21.2	15.9	6.2	43.4	13.1	9.9	3.9	26.9
VT78	38.5	16.9	17.6	73.0	18.6	8.2	13.0	39.7	11.2	4.9	7.8	24.0
WOR	44.7	37.9	0.0	82.7	21.6	21.4	0.0	43.0	14.1	13.9	0.0	28.0
WOR1	44.7	37.9	0.0	82.7	21.6	21.4	0.0	43.0	14.1	13.9	0.0	28.0
WV523S	72.7	34.1	26.7	133.5	36.3	20.8	13.7	70.7	19.5	11.2	7.3	38.0
WV531S	65.9	40.7	14.9	121.5	32.0	24.1	6.5	62.5	16.1	12.1	3.3	31.5
WV547S	50.4	28.0	17.7	96.1	26.0	16.2	9.9	52.1	13.2	8.2	5.0	26.4
WV548S	48.5	26.9	17.0	92.4	25.2	15.7	9.6	50.4	12.9	8.1	4.9	25.9
WV769S	65.6	40.5	14.8	120.9	32.6	24.5	6.6	63.6	16.2	12.1	3.3	31.6
WV770S	55.1	34.0	12.4	101.5	27.2	20.5	5.5	53.2	13.9	10.4	2.8	27.1
WV771S	58.0	35.8	13.1	106.9	28.3	21.3	5.7	55.3	14.0	10.5	2.8	27.3
WV785S	36.3	20.1	12.7	69.1	19.0	11.8	7.2	38.0	10.2	6.4	3.9	20.5
WV788S	52.1	28.9	18.3	99.2	26.8	16.7	10.2	53.7	13.6	8.5	5.2	27.3
WV796S	64.6	30.3	23.8	118.7	32.2	18.5	12.1	62.8	17.4	9.9	6.5	33.8

Dry/Wet, Occult/Wet, and Total/Wet ratios for deposition of S

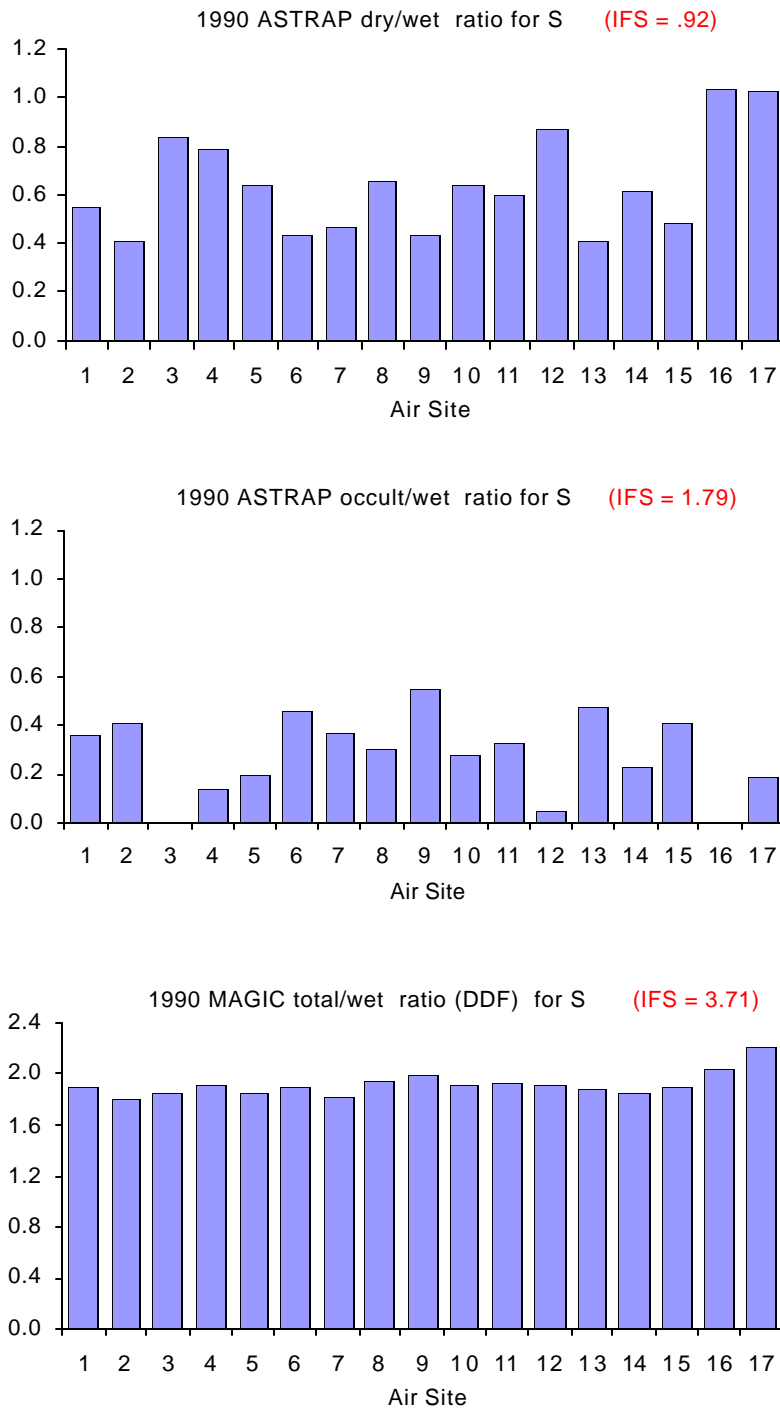


Figure L-1. The values of the dry-to-wet deposition ratios (upper panel), the occult-to-wet deposition values (middle panel) and the dry deposition factor, DDF, calculated from the ratios (lower panel) for each ASTRAP location for S deposition. The ASTRAP locations are identified on the x-axis by Air Site Number. The locations of these air sites are given in Table L-3. The IFS values given in parentheses on each panel were used for the high elevation sites in the Great Smoky Mountains National Park.

Dry/Wet, Occult/Wet, and Total/Wet ratios for deposition of N

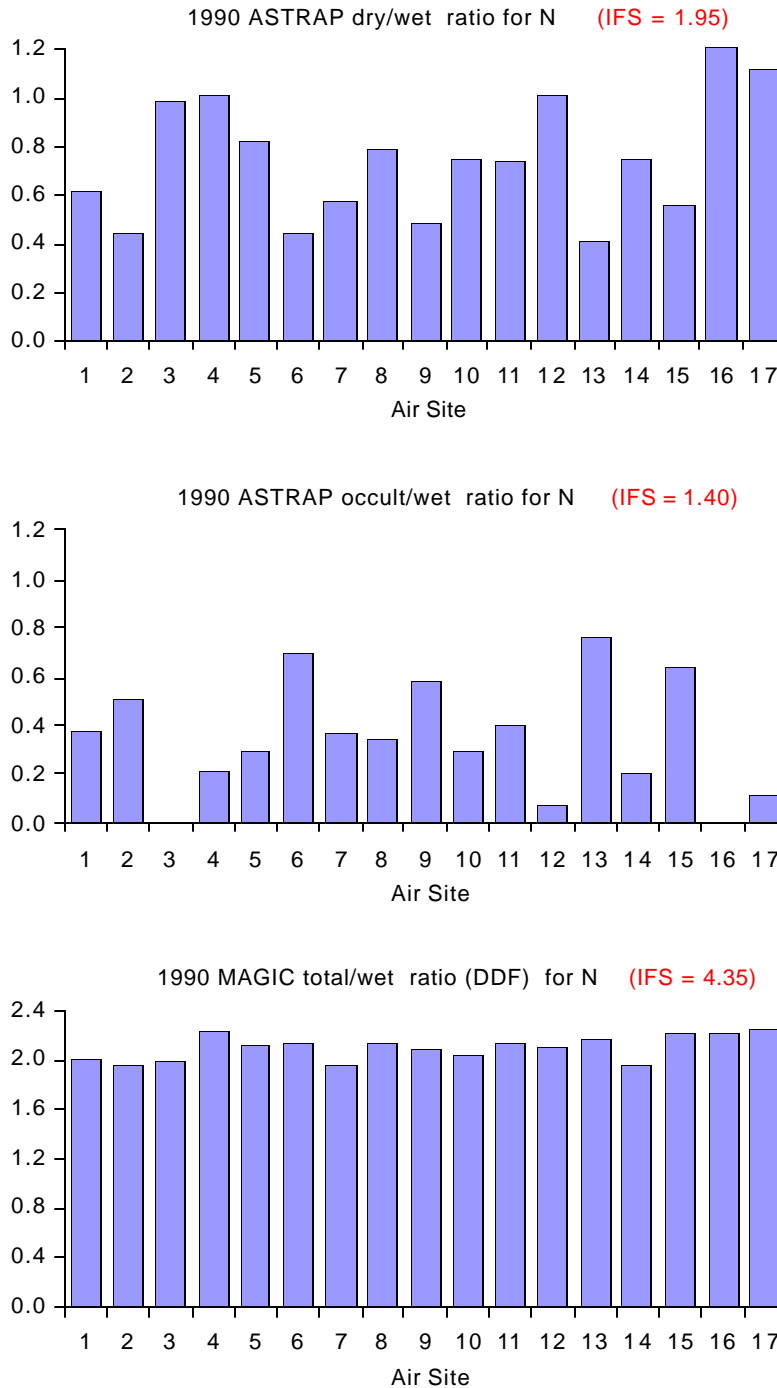


Figure L-2. The values of the dry-to-wet deposition ratios (upper panel), the occult-to-wet deposition values (middle panel) and the dry deposition factor, DDF, calculated from the ratios (lower panel) for each ASTRAP location for N deposition. The ASTRAP locations are identified on the x-axis by Air Site Number. The locations of these air sites are given in Table L-3. The IFS values given in parentheses on each panel were used for the high elevation sites in the Great Smoky Mountains National Park.

Assignment of Historical Scaled Sequences to SAMI sites Based on ASTRAP Modelled Deposition

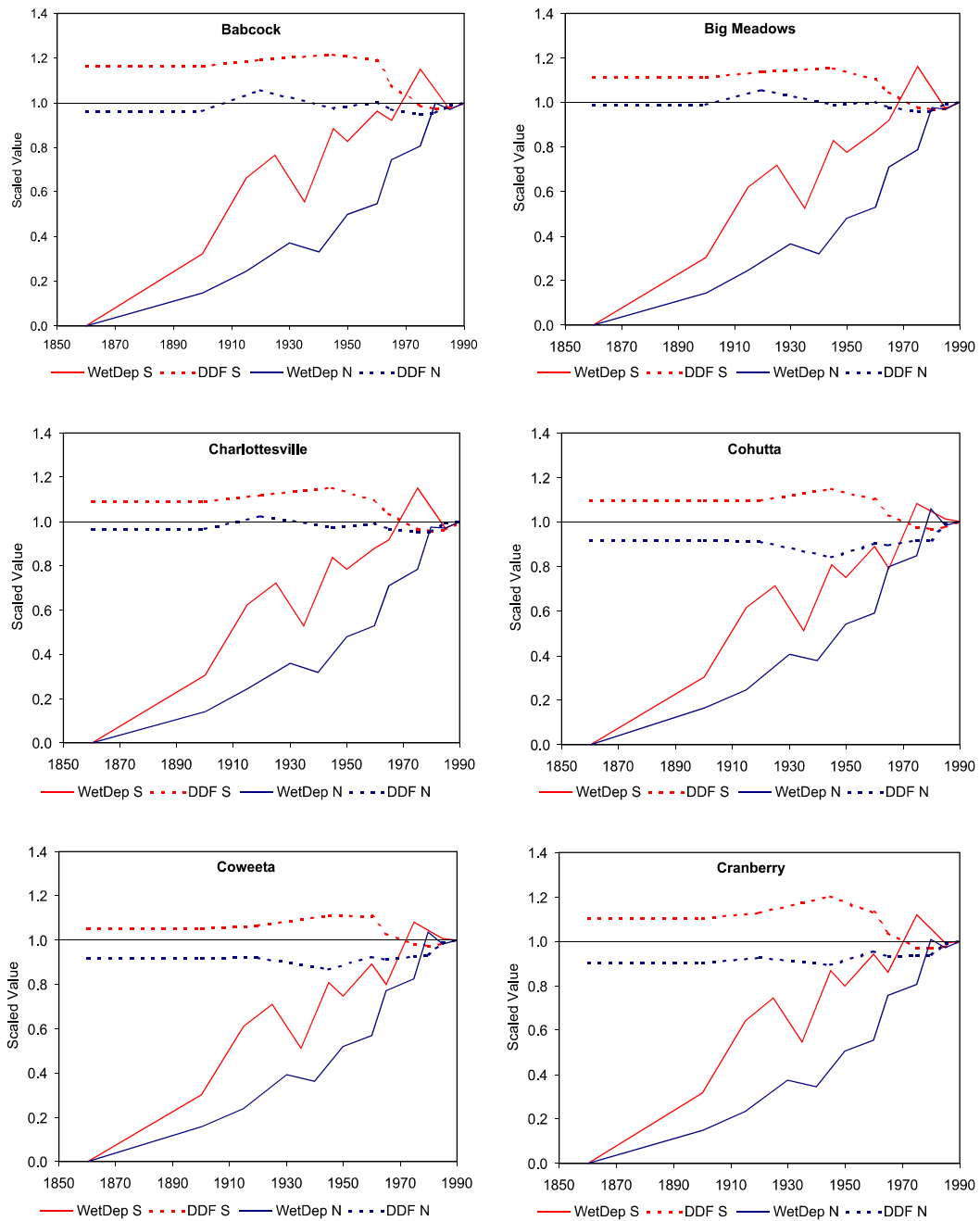


Figure L-3 The scaled past sequences of wet deposition and DDF for both S and N for each ASTRAP location. Each SAMI site was assigned one of these scaled sequences for estimation of past deposition (these assignments are noted in Table L-1).

Assignment of Historical Scaled Sequences to SAMI sites Based on ASTRAP Modelled Deposition

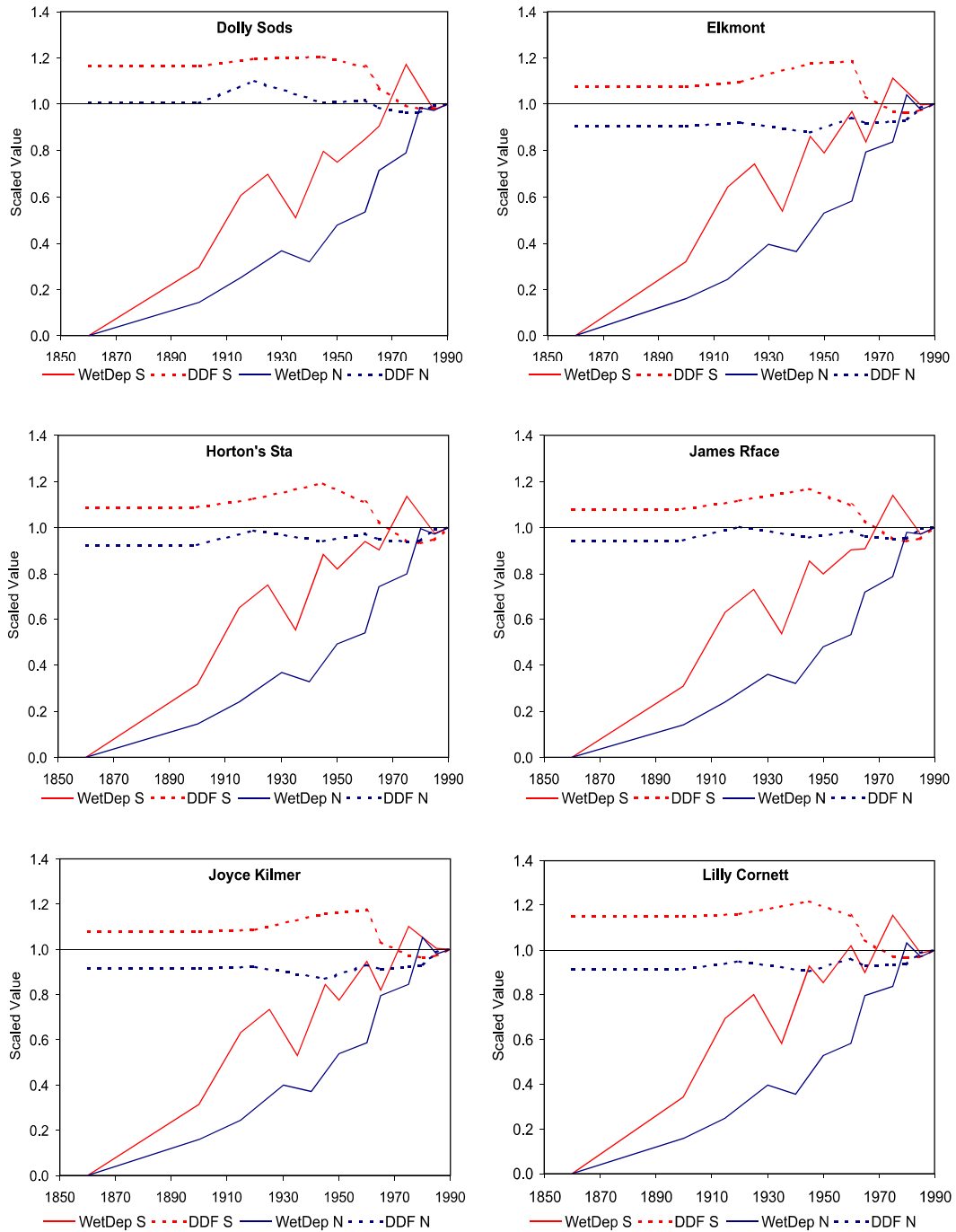


Figure L-3 Continued.

Assignment of Historical Scaled Sequences to SAMI sites Based on ASTRAP Modelled Deposition

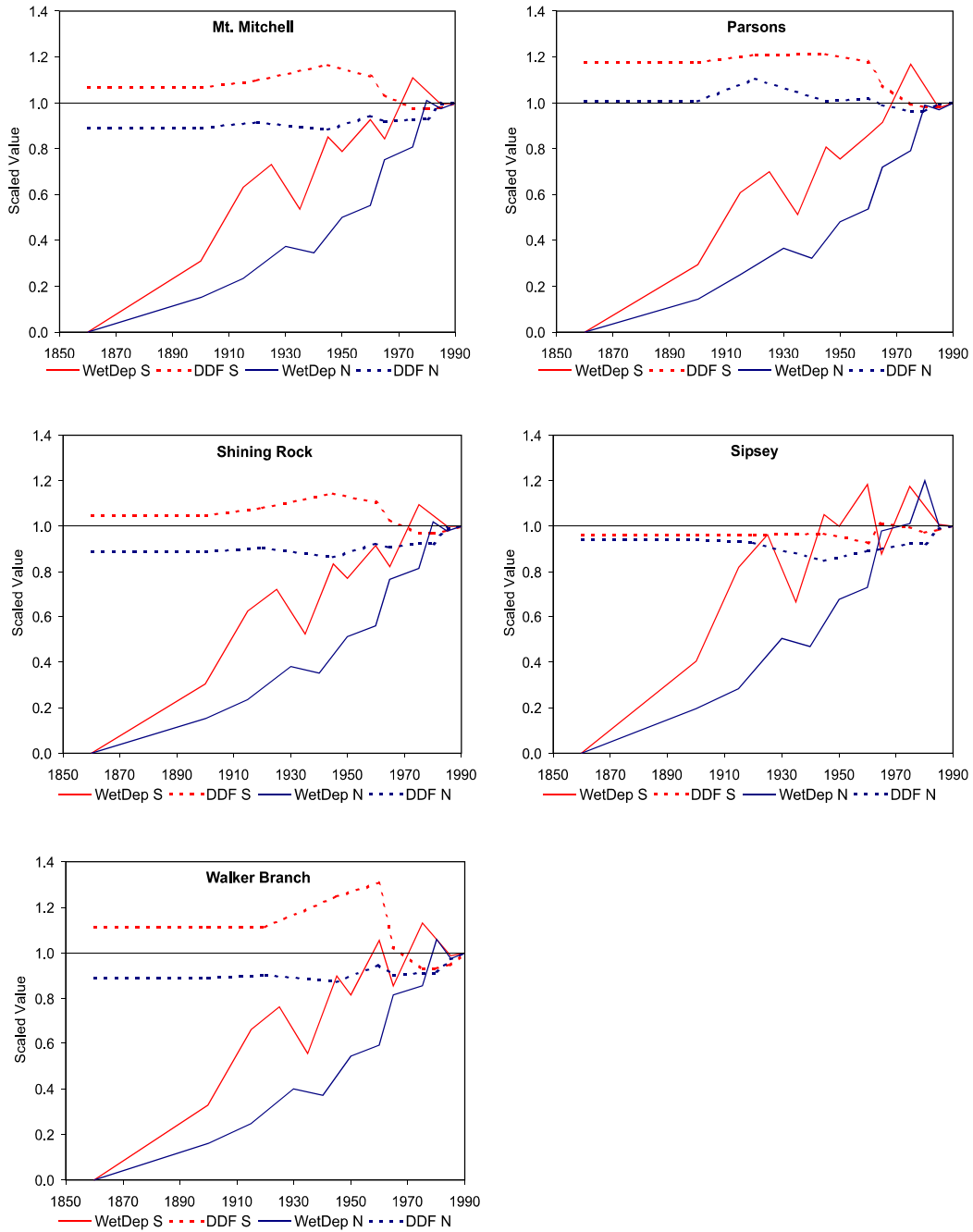


Figure L-3 Continued.