

## APPENDIX IV

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## Collection Period Chronology

Collection period	Beginning date (noon)	Ending date (noon)	Number of days
4	6, Oct. 1968	13, Oct. 1968	7
5	13, Oct. 1968	27, Oct. 1968	14
6	27, Oct. 1968	3, Nov. 1968	7
7	3, Nov. 1968	16, Nov. 1968	13
8	16, Nov. 1968	23, Nov. 1968	7
9	23, Nov. 1968	2, Dec. 1968	9
10	2, Dec. 1968	7, Dec. 1968	5
11	7, Dec. 1968	21, Dec. 1968	14
12	21, Dec. 1968	4, Jan. 1969	14
13	4, Jan. 1969	11, Jan. 1969	7
14	11, Jan. 1969	25, Jan. 1969	14
15	25, Jan. 1969	1, Feb. 1969	7
16	1, Feb. 1969	13, Feb. 1969	12
17	13, Feb. 1969	20, Feb. 1969	7
18	20, Feb. 1969	27, Feb. 1969	7
19	27, Feb. 1969	5, Mar. 1969	6
20	5, Mar. 1969	12, Mar. 1969	7
21	12, Mar. 1969	27, Mar. 1969	15
22	27, Mar. 1969	2, Apr. 1969	6
23	2, Apr. 1969	12, Apr. 1969	10
24	12, Apr. 1969	19, Apr. 1969	7
25	19, Apr. 1969	26, Apr. 1969	7
26	26, Apr. 1969	10, May 1969	14
27	10, May 1969	24, May 1969	14
28	24, May 1969	8, June 1969	14
29	8, June 1969	18, June 1969	10
30	18, June 1969	25, June 1969	7
31	25, June 1969	6, July 1969	11
32	6, July 1969	16, July 1969	10
33	16, July 1969	24, July 1969	8
34	24, July 1969	31, July 1969	7
35	31, July 1969	6, Aug. 1969	7
36	6, Aug. 1969	13, Aug. 1969	7
37	13, Aug. 1969	27, Aug. 1969	14
38	27, Aug. 1969	8, Sept. 1969	12
39	8, Sept. 1969	25, Sept. 1969	17
40	25, Sept. 1969	2, Oct. 1969	7

## Wind Speed - Knots

Collection Period	N	NE	E	SE	S	SW	N	NW
4	6.0	5.2	5.2	6.4	8.5			
5	8.8	3.5	14.3	10.0	4.3	5.7	5.5	11.8
6	8.5		4.0		4.3	6.3	8.1	7.4
7	8.6	8.8	14.6	12.9	10.0	21.2	24.5	12.9
8	11.3	12.0	15.8	13.5	13.5	20.0	20.1	16.2
9	11.0	9.1	9.0	7.0	13.1	14.9	13.4	14.4
10				22.5	25.0	11.8	10.5	17.9
11	14.9	6.5	7.0	8.0	5.0	12.13	13.6	14.9
12	12.2	5.0	5.9	10.0	6.0	18.0	15.2	17.8
13	6.4	4.7	6.0	10.0	7.5	10.0	7.7	17.3
14	7.1	7.6	8.6	4.5	6.3	7.8	8.4	7.5
15	10.9	9.0	5.0	8.0	5.8	7.3	8.5	12.1
16	15.6	13.6	8.9	8.2	5.3	10.0	8.8	22.7
17	12.6	14.4	15.0	8.0		8.0		8.3
18	13.7	15.2	7.4	11.0				
19	14.4	21.5	12.6	9.0				
20	13.7	14.3	9.5		5.7		10.3	12.4
21	10.6	5.5	13.9	15.8	12.7	10.8	11.8	10.3
22	10.4		7.0		12.0	16.2	11.6	12.1
23	11.5	11.4	7.5	6.0	8.3	14.8	6.3	7.0
24		18.0			7.5	10.4	6.6	7.0
25	10.0	18.0	16.5		13.0	12.0	9.1	6.9
26	6.6	8.2	6.3	6.2	8.1	14.7	10.5	8.2
27	6.0	10.8	7.5	9.7	10.1	10.2	6.1	5.8
28	4.9	5.8	7.2	5.8	5.0	9.0	6.9	7.9
29	8.0	7.8	7.5	6.0	4.9	7.6	6.2	
30	10.0	8.4	8.7	7.6	5.2	7.5	7.0	
31	5.0	5.4	4.5	5.0	6.1	7.1	5.1	4.3
32	5.8	4.7	6.6	5.8	5.7	4.3	7.9	4.0
33	3.0	3.0	8.6	6.4	4.0	8.0	7.5	4.0
34	6.5	7.0	6.3	4.5	6.0	6.8	5.3	
35		4.0	4.0		5.0	7.4	5.4	4.5
36	4.2	5.0			5.0	7.0	7.4	4.0
37	5.4	6.4	12.0	6.0	5.0	5.8	6.0	6.0
38		4.5	4.7	5.6	6.4	5.7	4.3	5.3
39	8.2	9.1	8.2	6.8	4.5	8.6	5.3	5.8
40	4.3	3.7	4.0	5.5	4.0	10.7	6.8	4.7

1 knot = 1.852 km/hr

**Wind Direction**  
(percent of time wind is from particular direction)

Collection Period	N	NE	E	SE	S	SW	W	NW
4	9.5	19.0	28.6	19.0	23.8			
5	23.8	2.4	3.6	7.1	11.9	21.4	17.9	11.9
6	23.8		2.4		7.1	7.1	26.2	13.3
7	18.0	15.4	32.0	9.0	1.3	6.4	2.6	15.4
8	7.1	2.4	14.3	9.5	4.8	2.4	19.0	40.5
9	18.9	13.2	3.8	3.8	13.2	22.6	9.4	15.0
10				13.3	3.3	13.3	13.3	56.6
11	33.7	2.4	8.4	2.4	1.2	9.6	8.4	33.7
12	30.8	3.6	11.8	2.4	3.6	4.8	8.3	34.5
13	23.8	7.1	2.4	2.4	4.8	2.4	7.1	50.0
14	27.4	11.9	25.0	2.4	7.1	4.8	6.0	15.5
15	26.2	7.1	11.9	11.9	14.3	7.1	4.8	16.7
16	20.8	16.7	11.1	8.3	4.1	1.4	12.5	25.0
17	42.9	40.5	4.8	2.4		2.3		7.1
18	31.0	35.7	28.6	4.8				
19	36.1	38.9	22.2	2.8				
20	50.0	7.1	4.8		7.1		7.1	23.8
21	22.2	2.2	10.0	5.6	13.3	6.7	20.0	20.0
22	22.2		2.8		5.6	36.1	13.9	19.4
23	6.7	16.7	3.3	6.7	15.0	30.0	15.0	6.7
24		2.4			9.5	59.5	26.2	2.4
25	7.1	9.5	4.8		23.8	16.7	21.4	16.7
26	6.0	7.1	8.3	4.8	19.0	27.4	22.6	4.8
27	1.2	7.1	7.1	7.1	17.9	41.7	13.1	4.8
28	8.9	4.4	5.6	8.9	14.4	23.3	26.7	7.8
29	1.7	10.2	3.4	1.7	18.6	44.1	20.3	
30	2.4	16.7	16.7	11.9	31.0	9.5	11.9	
31	16.7	7.6	6.0	4.6	10.6	34.8	15.2	4.6
32	8.3	11.7	8.3	6.7	31.7	15.0	16.7	1.7
33	2.1	4.2	35.4	22.9	4.2	2.1	27.1	2.1
34	4.8	2.4	7.1	9.5	45.2	21.4	9.5	
35		5.6	5.6		8.3	61.1	13.9	5.6
36	19.0	2.4			4.8	26.2	45.2	2.4
37	6.0	14.3	1.2	10.7	6.0	19.0	31.0	11.9
38		2.8	9.7	22.2	15.3	20.8	20.8	8.3
39	3.9	14.7	19.6	7.8	5.9	15.7	19.6	12.8
40	26.2	16.7	4.8	4.8	11.9	7.1	11.9	16.7

**Wind Speeds - Knots**  
(period of active precipitation)

Collection period	N	NE	E	SE	S	SW	W	NW
4					13.5			
5					10.0	8.3		
6					4.5		4.0	
7		19.0	25.6			34.0	40.0	
8	15.0		20.0	15.0	13.5			14.0
9	5.0				21.5	22.0		
10				23.7	25.0	18.0		27.0
11	19.5	5.0	6.0			7.0		
12	5.0	4.5	6.5	10.0	6.0	17.5	14.2	4.0
13		5.0			7.5	10.0	7.5	10.0
14	9.0	8.0	7.8		6.8	8.3	10.0	5.0
15			7.0	7.3	5.4	7.3	8.5	
16	35.0	33.3						
17		15.5						
18	15.7	17.3	9.5					
19		31.3	20.0					
20		16.5	9.0					
21			13.7	14.3	19.4		9.5	10.0
22	14.5					20.0	11.0	
23	9.5					15.4	7.5	9.0
24		18.0				13.5	7.0	
25					12.7			
26			8.0		21.0	14.7	17.0	8.0
27	6.0		5.0		14.0	10.4	1.0	6.3
28			5.0	4.0	4.5	10.6	7.5	10.0
29		19.0				8.6	9.5	
30		4.0		5.0	8.0			
31						4.0		
32					5.7		5.0	
33			12.6	10.0				
34					9.2	10.0	8.0	
35		4.0				14.0	7.0	4.0
36						4.0	18.0	
37	9.0				6.0	4.5	5.0	4.0
38			5.0	6.0			4.0	
39	5.0	20.0	24.0		4.0	15.0		
40	4.0	3.0						

1 knot = 1.852 km/hr

**Wind Directions During Periods of Active Precipitation**  
(percent of time wind is from particular direction)

Collection period	N	NE	E	SE	S	SW	W	NW
4					100.0			
5					25.0	75.0		
6					66.7		33.3	
7		14.3	64.3			14.3	7.1	
8	16.7		16.7	16.7	33.3			16.7
9	20.0				40.0	40.0		
10				42.9	14.3	28.6		14.3
11	50.0	12.5	25.0			12.5		
12	3.9	8.0	30.4	7.7	11.5	15.4	15.7	7.8
13		25.0			25.0	12.5	25.0	12.5
14	9.5	14.3	28.6		23.8	14.3	4.8	4.8
15			7.1	21.4	35.7	21.4	14.3	
16	40.0	60.0						
17		100.0						
18	37.5	37.5	25.0					
19		85.7	14.3					
20		66.7	33.3					
21			21.4	21.4	35.7		14.3	7.1
22	40.0					40.0	20.0	
23	18.2					45.5	18.2	18.2
24		7.7				76.9	15.4	
25					100.0			
26			6.7		13.3	53.3	20.0	6.7
27	5.9		5.9		11.8	52.9	5.9	17.6
28			8.3	25.0	16.7	25.0	16.7	8.3
29		12.5				62.5	25.0	
30		25.0		25.0	50.0			
31						100.0		
32					75.0		25.0	
33			62.5	37.5				
34					50.0	40.0	10.0	
35		20.0				20.0	40.0	20.0
36						50.0	50.0	
37	16.7				16.7	33.3	16.7	16.7
38			37.5	50.0			12.5	
39	16.7	16.7	16.7		33.3	16.7		
40	50.0	50.0						

**Temperature and Humidity Data**

Collection period	Mean temperature °F	Maximum temperature °F	Minimum temperature °F	Average relative humidity
	57.2	69	50	72.9
5	56.7	69	41	69.0
6	48.1	69	36	56.7
7	44.6	53	35	85.9
8	41.8	53	30	71.8
9	44.3	58	30	76.1
10	40.4	50	29	71.6
11	30.4	48	9	70.0
12	28.1	48	11	69.6
13	25.5	37	13	69.1
14	32.3	45	17	83.1
15	29.6	48	12	74.2
16	27.8	37	17	76.1
17	24.7	32	15	73.1
18	30.7	41	27	86.4
19	30.9	45	20	71.7
20	29.7	40	21	61.2
21	40.3	52	16	76.5
22	38.9	48	27	62.0
23	46.2	65	34	79.7
24	49.1	57	40	86.3
25	47.9	64	17	75.3
26	55.7	83	44	74.2
27	55.4	68	45	51.5
28	63.1	84	51	76.4
29	67.1	77	55	85.2
30	64.9	76	57	85.0
31	70.5	89	62	82.7
32	69.1	84	60	82.5
33	69.5	82	62	93.4
34	70.4	80	65	93.1
35	74.2	81	68	93.1
36	73.2	83	65	82.5
37	71.9	83	60	n
38	71.4	82	65	n
39	64.4	77	50	77.0
40	62.4	74	50	79.9

n = no data

**Wong Automatic Rain Collector - Rain**  
mg/m<sup>2</sup>/day

Collection period	Amount mm/day	K	Na	Ca	Mg	Particulate matter
4	2.61	0.52	14.92	0.97	1.70	—
5	2.36	0.35	5.13	0.29	0.57	—
6	1.57	0.95	10.42	1.10	1.42	—
7	8.11	2.43	54.57	3.04	6.79	—
8	4.48	0.45	5.44	0.56	0.58	—
9	1.58	0.79	13.59	1.11	1.42	—
10	8.10	0.81	40.59	2.27	3.87	—
11	2.53	0.25	9.61	1.42	1.02	—
12	4.06	0.81	16.93	1.50	1.98	—
13	0.31	0.23	4.77	0.54	0.59	—
14	0.36	0.28	7.89	0.35	0.82	—
15	2.56	0.38	8.96	0.49	0.92	—
16	4.36	1.53	34.88	2.18	5.08	1.10
17	1.45	0.07	1.46	0.45	0.19	—
18	2.67	0.40	1.73	0.67	0.27	—
19	1.31	0.59	11.55	1.06	1.58	—
20	0.16	0.02	0.20	0.06	0.03	—
21	1.74	0.87	17.53	1.22	2.43	—
22	1.50	0.75	13.52	1.14	1.95	—
23	2.27	0.68	17.05	2.05	1.82	0.02
24	3.57	0.72	14.65	1.43	1.79	—
25	7.11	1.42	26.31	1.42	3.56	—
26	1.52	1.37	29.57	2.59	3.66	0.05
27	0.86	0.95	1.64	1.46	2.84	—
28	1.76	0.18	3.53	0.35	0.53	—
29	5.04	0.15	3.02	1.06	0.50	—
30	1.22	0.12	2.67	1.22	0.49	—
31	1.60	0.16	2.25	0.18	0.32	—
32	2.60	0.26	4.69	0.26	0.78	—
33	3.14	0.31	5.34	0.63	0.94	—
34	15.33	1.53	19.93	0.61	3.07	—
35	8.07	0.81	11.30	0.32	1.62	—
36	1.12	0.22	6.41	0.45	0.79	—
37	5.95	0.18	1.78	0.24	0.60	—
38	5.62	0.11	1.69	0.17	0.56	—
39	2.00	0.20	3.00	0.08	0.40	—
40	1.92	0.19	2.50	0.25	0.38	—



**Bulk Precipitation–Open Rain Collections Cation Concentrations**  
(mg/l)

Collection period	K	Na	Ca	Mg
4	0.9	15.0	0.9	1.8
5	0.7	8.8	0.8	1.1
6	3.4	14.9	2.0	2.1
7	0.4	10.3	0.6	1.2
8	0.2	2.9	0.6	0.4
9	0.9	17.1	1.7	2.0
10	0.2	10.8	0.5	0.7
11	0.2	4.6	0.7	0.6
12	0.2	3.6	0.7	0.4
13	1.0	22.2	5.3	2.5
14	1.0	29.2	3.9	3.6
15	0.2	4.1	0.8	0.4
16	0.3	7.5	0.7	0.8
17	0.1	2.7	0.9	0.3
18	0.3	1.8	0.5	0.2
19	0.5	9.1	1.0	1.5
20	0.2	3.6	1.9	0.7
21	0.6	12.8	1.4	1.8
22	0.7	14.9	1.7	2.0
23	0.6	14.0	1.4	1.7
24	0.3	7.5	0.7	0.7
25	0.2	5.0	0.4	0.6
26	1.4	28.1	1.4	3.9
27	1.6	35.8	2.3	4.6
28	1.6	13.4	1.6	1.8
29	0.3	5.5	0.3	0.6
30	0.5	12.5	2.3	1.5
31	0.4	7.6	1.3	1.1
32	1.3	23.6	0.8	1.2
33	1.0	4.2	0.7	0.6
34	0.1	2.2	0.1	0.2
35	0.6	14.2	0.8	1.8
36	1.9	44.0	4.8	5.8
37	1.1	3.4	0.5	0.5
38	0.3	1.2	0.1	0.2
39	0.4	5.0	0.6	0.8
40	0.3	4.4	0.6	0.6

**Open Collectors—Bulk Precipitation**  
(mg cations/m<sup>2</sup>/day)

Collection period	K	Na	Ca	Mg
4	2.42	40.16	2.34	4.70
5	1.56	20.68	1.82	2.57
6	5.31	23.49	3.10	3.27
7	2.84	83.01	4.78	9.98
8	0.90	12.83	2.83	1.67
9	1.35	27.01	2.72	3.11
10	1.62	87.12	4.06	5.76
11	0.63	11.74	1.86	1.49
12	0.81	14.46	2.68	1.76
13	0.33	6.96	1.64	0.77
14	0.39	10.55	1.41	1.32
15	0.52	10.65	2.12	1.11
16	1.32	33.15	2.89	3.46
17	0.18	3.97	1.28	0.43
18	0.86	4.92	1.25	0.60
19	0.70	12.71	1.40	2.10
20	0.04	0.57	0.30	0.11
21	1.09	23.19	2.57	3.26
22	1.04	22.03	2.52	2.97
23	1.25	31.83	3.18	3.75
24	1.07	26.74	2.50	2.50
25	1.42	35.21	2.49	4.62
26	2.20	42.86	2.14	5.87
27	1.42	30.91	1.98	3.97
28	2.74	23.68	2.92	3.09
29	1.51	27.76	1.51	3.28
30	0.60	14.97	2.75	1.80
31	0.66	12.46	2.07	1.80
32	3.40	59.98	2.10	3.00
33	3.12	13.21	2.19	1.88
34	1.53	33.07	1.53	3.85
35	5.01	118.51	6.68	15.02
36	2.14	49.49	5.39	6.52
37	6.70	20.35	2.90	2.95
38	1.70	6.98	0.42	0.84
39	0.80	10.17	1.29	1.51
40	0.57	8.56	1.16	1.15

**Bulk Precipitation Open Collectors—Particulate Matter**  
(mg/m<sup>2</sup>/day)

Collection period	Particulate matter	K	Na	Ca	Mg
4	0.00	0.000	0.000	0.000	0.000
5	1.18	0.008	0.006	0.035	0.017
6	2.73	0.024	0.013	0.041	0.013
7	19.70	0.010	0.005	0.027	0.013
8	19.66	0.013	0.011	0.110	0.015
9	0.33	0.029	0.011	0.006	0.005
10	17.00	0.015	0.018	0.006	0.012
11	0.66	0.004	0.004	0.002	0.004
12	8.30	0.012	0.008	0.023	0.009
13	0.20	0.004	0.017	0.006	0.004
14	0.33	0.004	0.009	0.003	0.005
15	0.56	0.015	0.011	0.004	0.008
16	22.93	0.014	0.006	0.008	0.041
17	0.28	0.008	0.011	0.004	0.004
18	0.74	0.004	0.008	0.004	0.004
19	13.03	0.010	0.010	0.005	0.010
20	0.67	0.006	0.006	0.004	0.004
21	0.66	0.010	0.006	0.000	0.008
22	0.60	0.015	0.017	0.002	0.010
23	15.97	0.012	0.009	0.002	0.007
24	0.69	0.008	0.011	0.001	0.006
25	8.42	0.013	0.008	0.001	0.011
26	13.04	0.019	0.009	0.011	0.015
27	3.10	0.006	0.006	0.003	0.006
28	12.65	0.036	0.012	0.006	0.019
29	1.37	0.013	0.009	0.001	0.004
30	0.31	0.008	0.017	0.004	0.004
31	0.62	0.011	0.008	0.000	0.005
32	0.48	0.006	0.006	0.002	0.003
33	0.56	0.007	0.007	0.003	0.003
34	0.88	0.011	0.011	0.004	0.004
35	3.59	0.004	0.013	0.004	0.008
36	0.03	0.013	0.035	0.013	0.008
37	4.61	0.053	0.009	0.099	0.046
38	2.25	0.047	0.019	0.037	0.043
39	0.29	0.017	0.008	0.009	0.007
40	0.34	0.008	0.008	0.004	0.004

**Litter Fall in Sunken Forest Ecosystem Analysis Plot**  
(from through-fall collectors)

Collection period	Dry weight g/m <sup>2</sup> /day	K mg/m <sup>2</sup> /day	Na mg/m <sup>2</sup> /day	Ca mg/m <sup>2</sup> /day	Mg mg/m <sup>2</sup> /day
4	0.558	0.118	0.069	0.409	0.143
5	2.828	0.522	0.490	3.821	0.919
6	0.705	0.038	0.031	1.009	0.196
7	2.484	0.393	0.164	2.323	0.454
8	0.132	0.009	0.008	0.104	0.014
9	0.376	0.068	0.034	0.204	0.065
10	1.893	0.100	0.065	0.761	0.162
11	0.136	0.009	0.005	0.068	0.016
12	0.289	0.048	0.030	0.183	0.087
13	0.034	0.005	0.008	0.018	0.010
14	0.040	0.052	0.012	0.030	0.012
15	0.027	0.004	0.005	0.006	0.005
16	1.176	0.229	0.174	1.415	0.414
17	0.236	0.116	0.045	0.480	0.144
18	0.023	0.002	0.005	0.007	0.002
19	0.163	0.033	0.027	0.122	0.062
20	0.284	0.066	0.054	0.366	0.114
21	0.233	0.084	0.037	0.261	0.081
22	0.157	0.019	0.024	0.097	0.045
23	0.326	0.065	0.058	0.379	0.095
24	0.544	0.182	0.151	0.812	0.205
25	0.405	0.045	0.062	0.712	0.177
26	2.080	0.244	0.456	3.439	0.892
27	1.893	0.199	0.435	3.081	0.846
28	2.596	0.113	0.338	3.633	0.908
29	1.245	0.269	0.246	2.018	0.641
30	0.590	0.228	0.178	0.743	0.241
31	0.523	0.112	0.065	0.746	0.230
32	0.321	0.064	0.047	0.709	0.100
33	0.502	0.302	0.051	0.551	0.104
34	0.514	0.169	0.046	1.812	0.140
35	0.460	0.081	0.046	0.915	0.170
36	0.301	0.053	0.031	0.412	0.097
37	0.469	0.088	0.028	0.837	0.159
38	0.425	0.047	0.015	0.457	0.078
39	0.298	0.022	0.010	0.429	0.069
40	0.355	0.028	0.028	0.550	0.074
Mean % S.E.	19.9	24.6	18.6	19.5	17.2

**Through Fall Cation Concentrations**  
(mg/l)

Collection period	K	Na	Ca	Mg
4	7.3	36.2	3.8	5.3
5	5.7	19.2	4.3	3.7
6	6.5	25.8	5.9	5.8
7	2.0	21.3	2.2	2.8
8	1.0	10.2	1.2	1.5
9	5.6	47.3	6.3	7.9
10	1.7	19.1	1.7	1.8
11	2.5	9.9	1.6	1.6
12	0.9	7.2	1.2	1.2
13	0.7	11.5	3.9	1.7
14	6.6	54.8	12.4	11.9
15	1.9	12.0	2.6	2.2
16	0.7	9.7	1.2	1.4
17	3.2	24.3	4.2	4.9
18	0.7	6.0	0.9	1.2
19	0.5	10.7	1.0	1.4
20	0.5	3.7	1.1	0.7
21	2.9	42.2	5.0	6.5
22	2.0	30.5	3.3	5.0
23	2.6	20.6	3.5	2.6
24	1.7	15.5	1.7	2.0
25	0.9	10.7	0.6	1.4
26	9.5	63.7	6.0	9.9
27	15.9	79.2	8.4	13.2
28	7.4	30.5	5.0	6.5
29	4.7	12.8	2.2	1.9
30	18.9	41.7	7.3	7.9
31	10.6	16.4	2.4	3.3
32	7.0	18.4	3.3	3.4
33	5.3	14.0	4.2	3.1
34	0.9	4.5	0.7	0.6
35	2.3	10.2	1.2	1.3
36	10.0	41.6	5.0	6.4
37	2.8	6.8	1.8	1.4
38	1.7	2.3	0.7	0.5
39	2.0	7.9	1.5	1.0
40	5.3	19.4	4.8	3.9

## Through Fall in Sunken Forest Ecosystem Analysis Plot

Collection period	Amount mm/day	K mg/m <sup>2</sup> /day	Na mg/m <sup>2</sup> /day	Ca mg/m <sup>2</sup> /day	Mg mg/m <sup>2</sup> /day
4	1.98	14.4	71.6	7.4	10.4
5	2.09	12.0	40.0	9.0	7.6
6	1.07	7.0	27.6	6.2	6.1
7	5.57	11.3	118.7	12.1	15.5
8	3.02	3.1	20.9	3.6	4.4
9	0.84	4.7	39.8	5.2	6.6
10	6.27	10.7	119.9	10.6	11.2
11	1.86	4.6	18.4	2.9	3.0
12	3.16	3.0	22.7	3.8	3.7
13	0.09	0.0	1.1	0.3	0.1
14	0.19	1.3	10.8	2.4	2.3
15	1.67	3.2	20.1	4.3	3.7
16	3.29	2.2	32.0	3.9	4.4
17	0.81	2.5	19.7	3.4	4.0
18	2.13	1.5	12.7	1.8	2.6
19	1.56	0.7	16.6	1.6	2.2
20	0.88	0.4	3.2	0.9	0.5
21	1.48	4.3	62.4	7.4	9.5
22	0.96	2.0	29.5	3.2	4.8
23	1.59	4.1	32.7	5.5	4.2
24	2.38	4.1	37.0	4.0	4.8
25	4.56	3.9	48.7	2.8	6.2
26	0.99	9.3	63.1	5.9	9.7
27	0.49	7.8	39.0	4.1	6.5
28	1.33	9.9	40.7	6.8	8.7
29	4.76	22.4	61.1	10.2	9.0
30	0.60	11.4	25.2	4.4	4.7
31	1.44	15.2	23.7	3.4	4.7
32	1.46	10.3	27.0	4.7	4.9
33	2.19	11.6	30.8	9.2	6.8
34	16.22	14.0	72.8	11.3	9.7
35	6.50	14.8	66.4	7.7	8.5
36	0.71	7.2	29.8	3.6	4.6
37	5.52	15.2	37.3	9.6	7.7
38	6.15	10.4	14.4	4.4	3.3
39	1.75	3.6	13.8	2.6	1.8
40	1.36	7.1	26.4	6.4	5.3
Mean % S.E.	5.2	10.4	7.7	8.4	7.8

***Ilex opaca* Stemflow Cation Concentrations**  
(mg/l)

Collection period	K	Na	Ca	Mg
4	8.4	45.0	20.7	6.3
5	3.8	15.2	2.3	1.8
6	6.7	20.4	5.6	6.6
7	3.8	31.7	3.0	3.8
8	3.3	20.6	1.6	2.4
9	7.7	77.1	7.7	11.6
10	2.8	13.8	2.2	1.5
22	9.1	69.0	8.6	5.0
23	6.0	62.1	5.8	5.0
24	4.3	35.5	4.3	4.7
25	4.4	23.3	3.8	4.2
26	8.8	111.8	10.5	11.9
27	9.0	120.2	7.4	14.4
28	4.3	25.9	2.2	2.9
29	4.7	11.8	1.9	1.6
30	14.3	39.2	12.4	7.9
31	4.7	10.5	1.4	1.9
32	12.0	28.8	4.9	4.9
33	7.3	15.5	4.0	3.0
34	1.9	8.5	0.8	0.8
35	2.1	8.8	1.0	0.9
36	8.0	59.6	6.9	3.6
37	2.1	4.6	1.5	0.8
38	3.1	5.1	1.9	1.0
39	2.3	4.9	2.4	0.9
40	5.3	14.6	6.0	3.4

*Ilex opaca* Stemflow

Collection period	Amount mm/day	K mg/m <sup>2</sup> /day	Na mg/m <sup>2</sup> /day	Ca mg/m <sup>2</sup> /day	Mg mg/m <sup>2</sup> /day
4	0.38	3.18	17.08	7.86	2.41
5	0.32	1.24	4.94	0.74	0.59
6	0.20	1.32	4.00	1.09	1.29
7	1.08	4.13	34.33	3.33	4.13
8	0.57	1.88	11.74	0.91	1.36
9	0.26	2.04	20.35	2.02	3.06
10	1.06	2.97	14.61	2.35	1.55
22	0.13	1.20	9.07	1.13	0.65
23	0.27	1.63	16.87	1.58	1.38
24	0.47	2.04	16.71	2.02	2.23
25	0.94	4.08	21.82	3.60	3.91
26	0.29	2.56	32.30	3.02	3.43
27	0.15	1.33	17.84	1.11	2.15
28	0.25	1.10	6.56	0.57	0.72
29	0.59	2.77	6.95	1.11	0.94
30	0.08	1.15	3.15	1.00	0.64
31	0.16	0.76	1.70	0.24	0.32
32	0.27	3.19	7.67	1.32	1.31
33	0.25	1.80	3.83	1.00	0.75
34	2.04	3.81	17.32	1.55	1.56
35	1.16	2.46	10.19	1.16	1.01
36	0.10	0.85	6.24	0.73	0.37
37	0.78	1.65	3.58	1.14	0.65
38	0.68	2.13	3.51	1.27	0.69
39	0.32	0.74	1.58	0.79	0.28
40	0.23	1.19	3.28	1.35	0.75



***Sassafras albidum* Stemflow Cation Concentrations**  
(mg/l)

Collection period	K	Na	Ca	Mg
4	8.7	39.9	7.5	6.0
5	8.4	15.6	5.3	2.7
6	10.0	26.1	8.5	5.1
7	3.7	23.0	3.3	2.6
8	3.9	17.0	2.7	1.8
9	10.3	57.6	11.7	9.2
10	3.6	23.0	2.9	2.0
22	17.0	63.5	7.4	9.7
23	19.0	43.6	7.0	9.5
24	14.5	39.0	7.8	9.7
25	7.3	30.2	5.6	4.4
26	11.6	71.6	15.2	12.4
27	15.1	92.7	15.0	12.3
28	8.1	55.4	7.9	8.0
29	3.9	8.0	1.1	1.0
30	20.5	36.0	6.2	6.2
31	6.2	11.8	2.5	1.8
32	13.4	23.3	7.0	3.8
33	8.4	12.3	4.9	2.2
34	2.0	4.6	1.0	0.5
35	3.5	6.9	1.9	0.8
36	9.9	20.8	5.2	6.8
37	2.1	4.7	1.9	0.8
38	3.1	3.5	2.0	0.7
39	2.8	4.8	1.8	0.7
40	6.6	10.5	7.4	2.7

*Sassafras albidum* Stemflow

Collection period	Amount mm/day	K mg/m <sup>2</sup> /day	Na mg/m <sup>2</sup> /day	Ca mg/m <sup>2</sup> /day	Mg mg/m <sup>2</sup> /day
4	0.07	0.57	2.62	0.49	0.40
5	0.04	0.32	0.60	0.20	0.10
6	0.02	0.19	0.50	0.16	0.10
7	0.20	0.76	4.77	0.68	0.54
8	0.12	0.46	1.99	0.32	0.21
9	0.02	0.22	1.25	0.25	0.20
10	0.27	0.98	6.24	0.78	0.55
22	0.15	0.26	0.96	0.11	0.15
23	0.05	0.88	2.03	0.33	0.44
24	0.07	1.08	2.89	0.58	0.72
25	0.17	1.23	5.10	0.95	0.75
26	0.02	0.23	1.41	0.30	0.24
27	0.01	0.12	0.75	0.12	0.10
28	0.03	0.21	1.41	0.20	0.20
29	0.11	0.44	0.91	0.13	0.12
30	0.01	0.24	0.43	0.08	0.07
31	0.02	0.10	0.19	0.04	0.03
32	0.02	0.31	0.54	0.16	0.09
33	0.04	0.38	0.55	0.21	0.10
34	0.36	0.73	1.67	0.37	1.84
35	0.19	0.66	1.28	0.34	0.16
36	0.01	0.13	0.27	0.07	0.09
37	0.12	0.39	0.56	0.23	0.10
38	0.15	0.45	0.52	0.31	0.10
39	0.04	0.11	0.19	0.07	0.03
40	0.03	0.20	0.32	0.23	0.08

***Amelanchier canadensis* Stemflow Cation Concentrations  
(mg/l)**

Collection period	K	Na	Ca	Mg
4	18.6	39.8	23.8	8.4
5	4.9	78.5	4.0	2.6
6	7.6	35.6	6.2	6.6
7	3.4	30.5	3.6	4.0
8	3.5	16.5	3.0	2.1
9	8.4	91.6	13.9	13.2
10	2.0	23.0	1.6	1.9
22	6.9	61.9	6.9	5.9
23	6.4	40.7	5.9	5.2
24	5.2	37.4	4.8	4.0
25	4.7	27.9	4.6	3.2
26	11.9	134.2	13.1	17.0
27	26.9	166.0	11.7	17.3
28	9.8	62.9	5.0	6.8
29	3.2	12.6	1.6	1.5
30	11.2	80.5	12.4	8.3
31	3.2	9.4	1.6	1.7
32	8.0	24.8	5.0	3.7
33	8.0	17.1	5.4	3.0
34	2.3	12.1	1.5	1.5
35	1.8	7.9	1.0	0.8
36	4.5	35.7	4.8	5.2
37	1.6	4.8	1.2	0.8
38	1.5	3.3	0.9	0.5
39	1.9	6.0	1.6	0.9
40	3.7	5.1	4.1	2.3

*Amelanchier canadensis* Stemflow

Collection period	Amount mm/day	K mg/m <sup>2</sup> /day	Na mg/m <sup>2</sup> /day	Ca mg/m <sup>2</sup> /day	Mg mg/m <sup>2</sup> /day
4	0.04	0.73	1.56	0.93	0.33
5	0.07	0.34	1.30	0.29	0.18
6	0.05	0.39	1.84	0.32	0.34
7	0.37	1.26	11.21	1.34	1.45
8	0.18	0.61	2.90	0.53	0.37
9	0.06	0.52	5.71	0.87	0.82
10	0.32	0.63	7.43	0.51	0.61
22	0.04	0.30	2.69	0.30	0.26
23	0.06	0.41	2.62	0.38	0.33
24	0.13	0.70	5.05	0.65	0.54
25	0.28	1.34	7.91	1.30	0.91
26	0.05	0.63	7.10	0.70	0.90
27	0.03	1.00	6.03	0.42	0.63
28	0.06	0.61	3.92	0.31	0.43
29	0.22	0.71	2.76	0.36	0.32
30	0.02	0.24	1.75	0.27	0.18
31	0.05	0.17	0.48	0.08	0.09
32	0.08	0.66	2.04	0.41	0.31
33	0.10	0.77	1.65	0.51	0.30
34	0.69	1.60	8.36	1.05	1.06
35	0.28	0.50	2.21	0.29	0.23
36	0.03	0.17	1.37	0.19	0.20
37	0.23	0.37	1.12	0.29	0.18
38	0.22	0.33	0.73	0.20	0.12
39	0.08	0.16	0.51	0.13	0.07
40	0.09	0.33	0.58	0.36	0.20

**Total Stemflow in Sunken Forest Ecosystem Analysis Plot.**  
 Weighted Mean Cation Concentrations (mg/l)

Collection period	K	Na	Ca	Mg
4	9.3	43.9	19.2	6.5
5	4.4	15.8	2.8	2.0
6	7.1	23.8	5.9	6.5
7	3.7	30.4	3.2	3.7
8	3.4	19.2	2.0	2.2
9	8.0	78.5	9.0	11.7
10	2.8	17.1	2.2	1.6
22	9.2	67.0	8.1	5.6
23	7.6	56.3	6.0	5.6
24	5.6	36.2	4.8	5.1
25	4.8	25.1	4.2	4.0
26	9.4	112.9	11.1	12.6
27	12.6	127.6	8.6	14.9
28	5.6	34.8	3.7	4.0
29	4.2	11.5	1.7	1.5
30	14.4	46.8	11.8	7.8
31	4.5	10.3	1.6	1.9
32	11.2	27.6	5.1	4.6
33	7.6	15.5	4.5	3.0
34	2.0	8.8	1.0	0.9
35	2.2	8.4	1.1	0.9
36	7.3	50.5	6.3	4.2
37	2.1	4.6	1.5	0.8
38	2.8	4.5	1.7	0.9
39	2.3	5.1	2.2	0.9
40	5.0	12.2	5.6	3.0

**Total Stemflow in the Sunken Forest Ecosystem Analysis Plot**

Collection period	Amount mm/day	K mg/m <sup>2</sup> /day	Na mg/m <sup>2</sup> /day	Ca mg/m <sup>2</sup> /day	Mg mg/m <sup>2</sup> /day
4	0.48	4.49	21.26	9.28	3.13
5	0.43	1.90	6.83	1.22	0.87
6	0.27	1.90	6.34	1.57	1.73
7	1.66	6.16	50.32	5.34	6.13
8	0.86	2.95	16.63	1.77	1.93
9	0.35	2.79	27.31	3.15	4.08
10	1.65	4.58	28.28	3.65	2.71
22	0.19	1.76	12.72	1.54	1.05
23	0.38	2.93	21.51	2.29	2.15
24	0.68	3.82	24.65	3.25	3.48
25	1.39	6.64	34.82	5.85	5.57
26	0.36	3.42	40.82	4.02	4.57
27	0.19	2.43	24.62	1.65	2.87
28	0.34	1.92	11.89	1.08	1.36
29	0.92	3.92	10.63	1.61	1.38
30	0.11	1.64	5.33	1.34	0.89
31	0.23	1.03	2.38	0.36	0.43
32	0.37	4.16	10.25	1.89	1.71
33	0.39	2.95	6.03	1.74	1.14
34	3.09	6.14	27.35	2.98	2.81
35	1.62	3.62	13.69	1.79	1.39
36	0.16	1.15	7.88	0.98	0.66
37	0.11	2.42	5.25	1.66	0.93
38	1.05	2.91	4.76	1.77	0.90
39	0.45	1.00	2.27	0.99	0.39
40	0.34	1.72	4.19	1.94	1.04

## Sunken Forest ground-water cation concentrations (mg/l)

	K	Na	Ca	Mg
16, Nov. 1968	1.2	27.6	2.9	2.7
23, Nov. 1968	0.8	19.4	1.8	2.0
2, Dec. 1968	1.1	11.8	2.6	1.9
7, Dec. 1968	1.8	24.0	3.6	2.1
14, Dec. 1968	1.0	31.1	8.6	6.2
21, Dec. 1968	1.1	32.5	8.2	6.8
4, Jan. 1969	1.3	31.9	12.2	7.3
11, Jan. 1969	1.0	28.6	5.4	4.4
25, Jan. 1969	0.9	26.8	2.8	3.8
1, Feb. 1969	0.9	27.0	4.3	3.4
13, Feb. 1969	0.5	19.6	2.4	2.3
20, Feb. 1969	1.0	23.5	3.5	2.2
27, Feb. 1969	1.6	24.3	3.2	3.5
15, Mar. 1969	2.0	30.0	6.6	5.0
12, Mar. 1969	1.8	29.0	5.5	4.0
19, Mar. 1969	1.5	26.5	3.3	4.0
27, Mar. 1969	1.9	26.8	3.2	4.0
2, Apr. 1969	2.6	27.9	4.0	4.0
12, Apr. 1969	1.1	25.0	4.1	4.0
19, Apr. 1969	1.0	24.0	4.4	4.0
26, Apr. 1969	1.9	25.1	3.0	3.8
3, May 1969	1.5	27.5	3.0	4.2
10, May 1969	1.2	27.5	3.5	4.1
17, May 1969	1.2	26.8	3.2	4.1
24, May 1969	1.3	30.0	4.0	4.7
1, June 1969	1.5	26.8	0.6	5.8
8, June 1969	1.4	32.8	4.2	5.1
18, June 1969	1.4	31.5	0.9	4.8
25, June 1969	1.4	31.7	3.9	4.2
3, July 1969	1.4	31.8	4.0	4.8
6, July 1969	1.4	32.0	4.8	4.8
16, July 1969	0.9	26.8	3.7	3.7
24, July 1969	1.3	33.0	4.4	5.4
31, July 1969	2.4	40.6	5.1	5.4
6, Aug. 1969	1.3	30.8	4.6	4.8
13, Aug. 1969	1.3	30.0	3.9	4.6
21, Aug. 1969	1.4	29.8	3.8	4.1
27, Aug. 1969	1.3	23.3	1.8	2.2
2, Sept. 1969	1.6	28.5	3.8	4.2
25, Sept. 1969	0.6	11.7	0.8	1.4
2, Oct. 1969	1.6	20.8	1.7	3.1
Mean $\pm$ S.E.	1.35 $\pm$ 0.07	27.2 $\pm$ 0.8	3.9 $\pm$ 0.3	4.1 $\pm$ 0.2

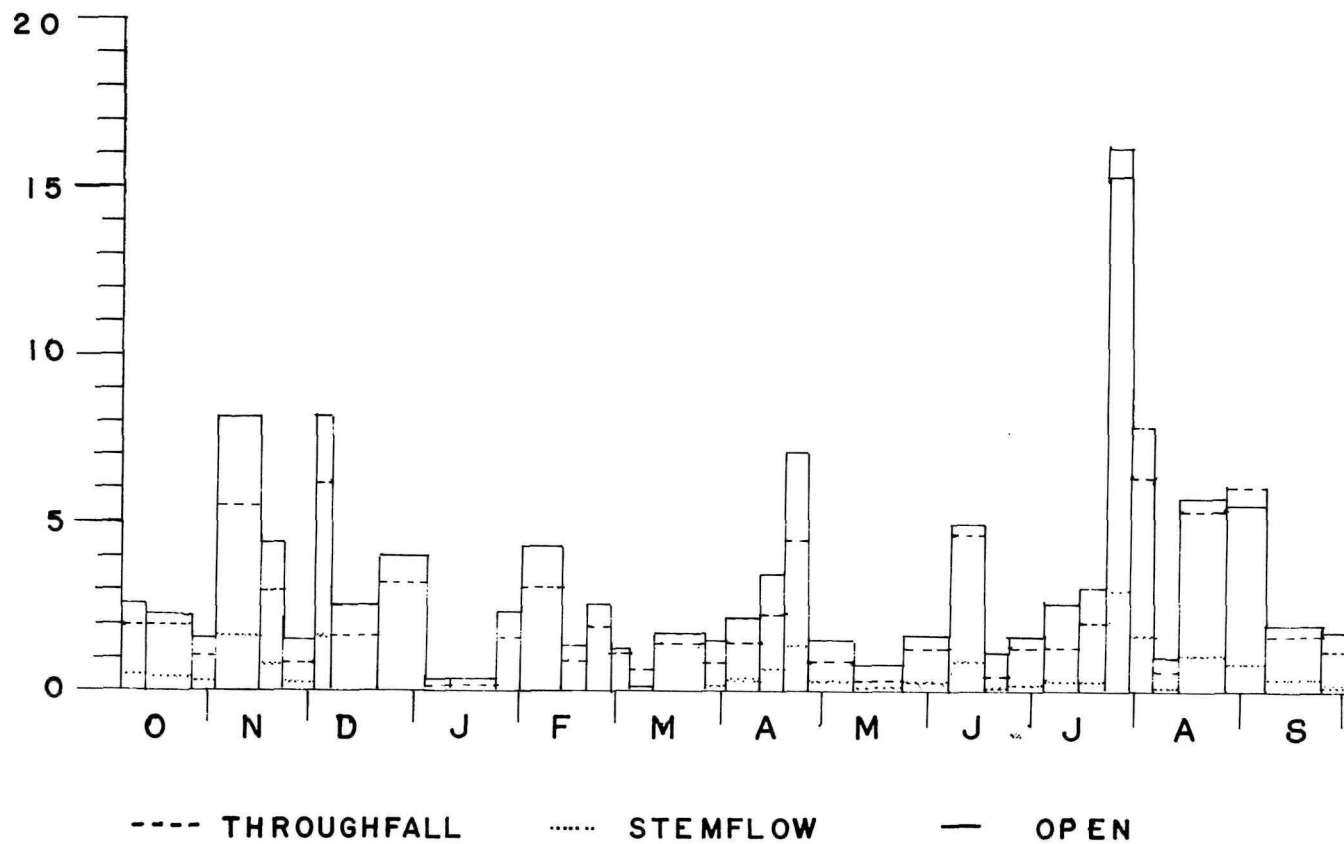


Fig. D-1. Precipitation distribution (mm/day).



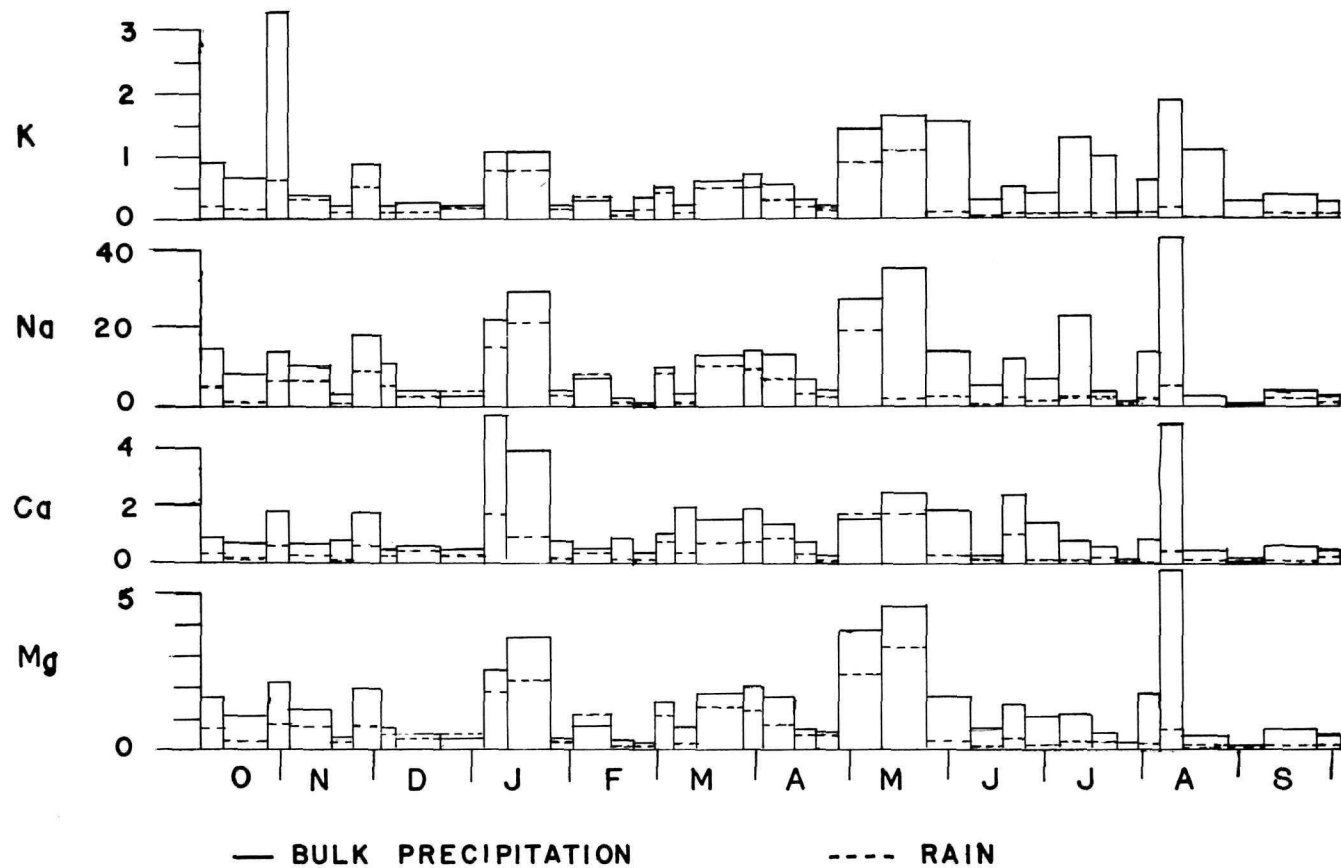


Fig. D-2. Cation concentrations in precipitation (mg/l).

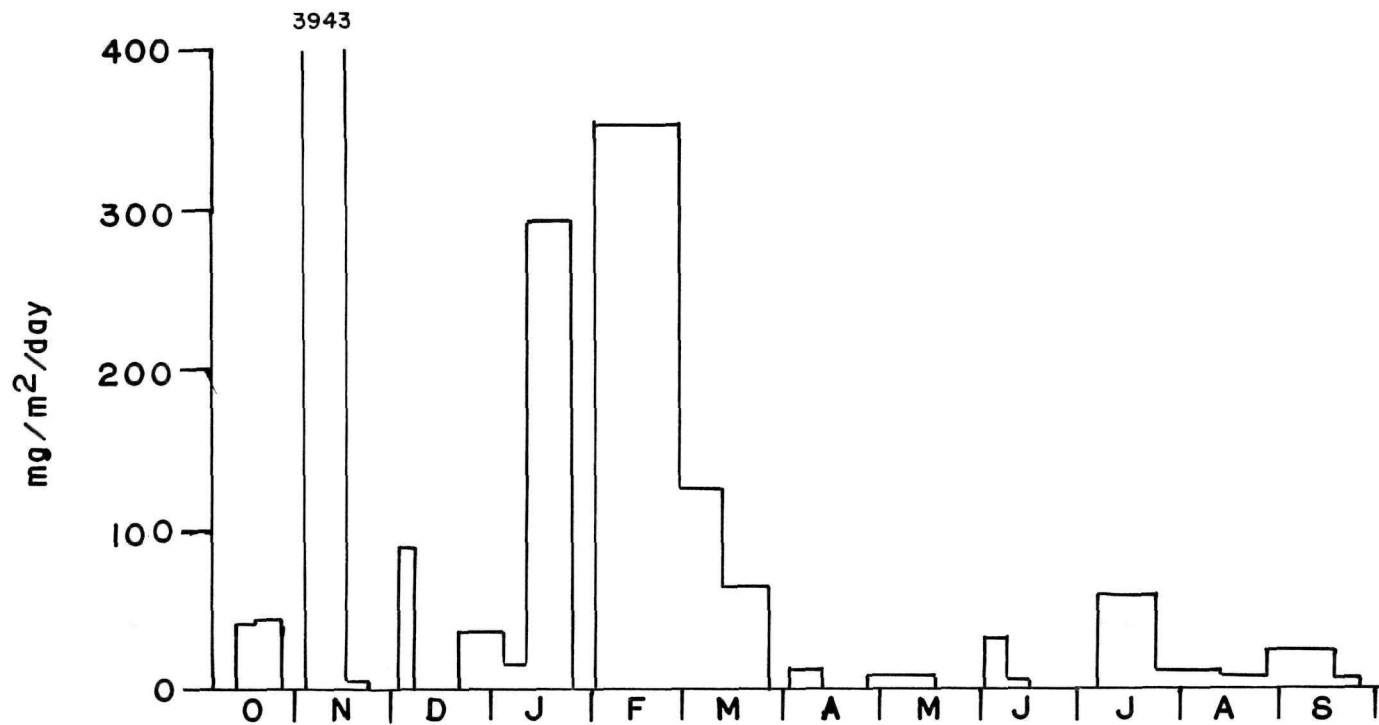


Fig. D-3. Annual wood and bark litter fall.

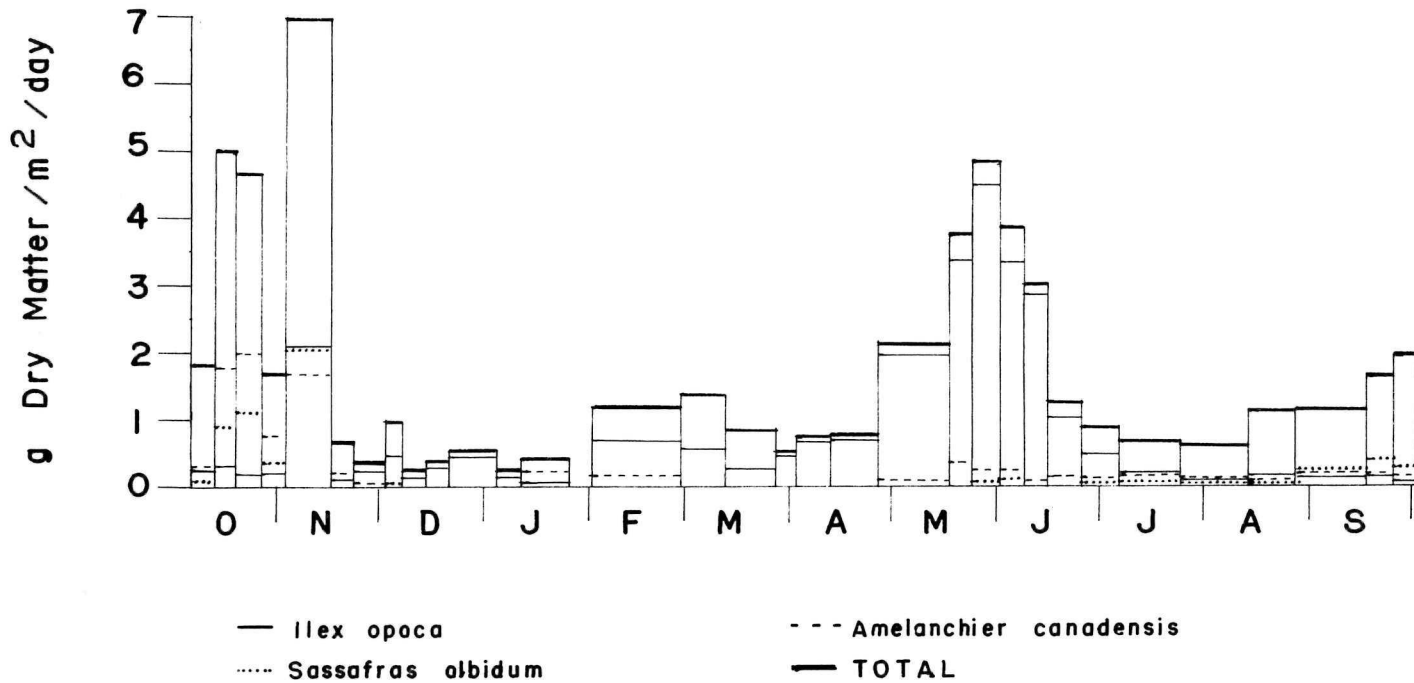


Fig. D-4. Annual litter fall.

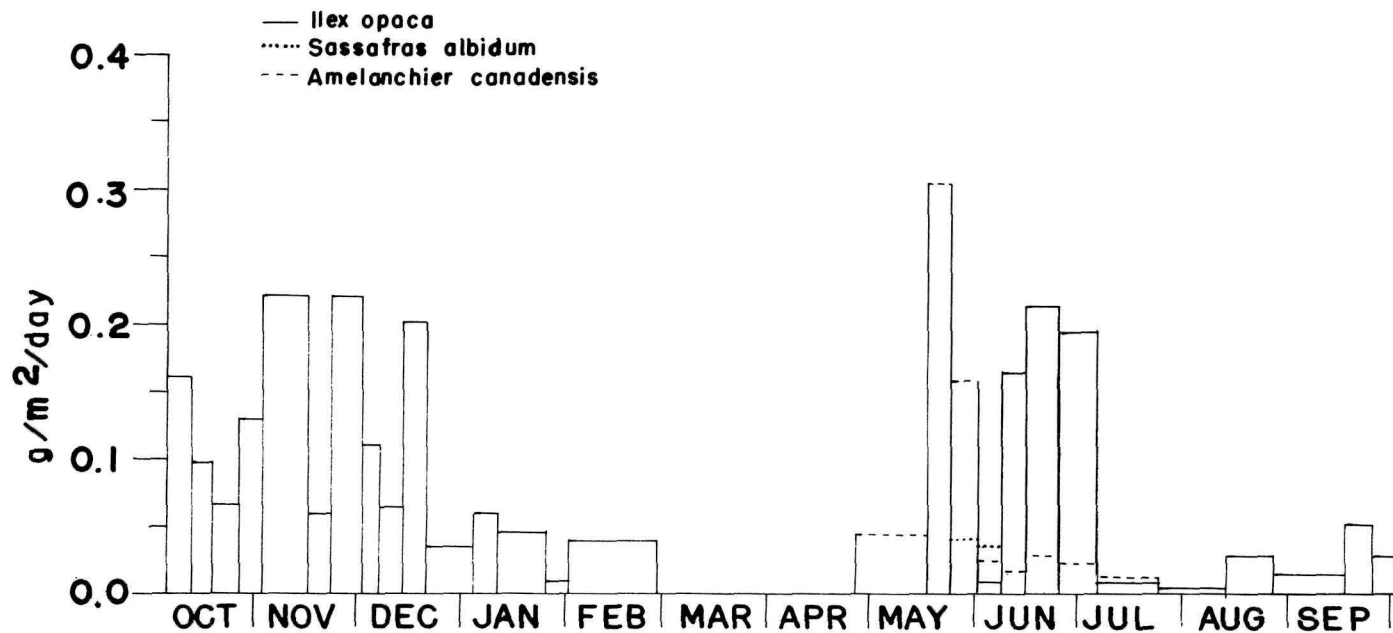


Fig. D-5. Litter fall: Fruits and flowers.

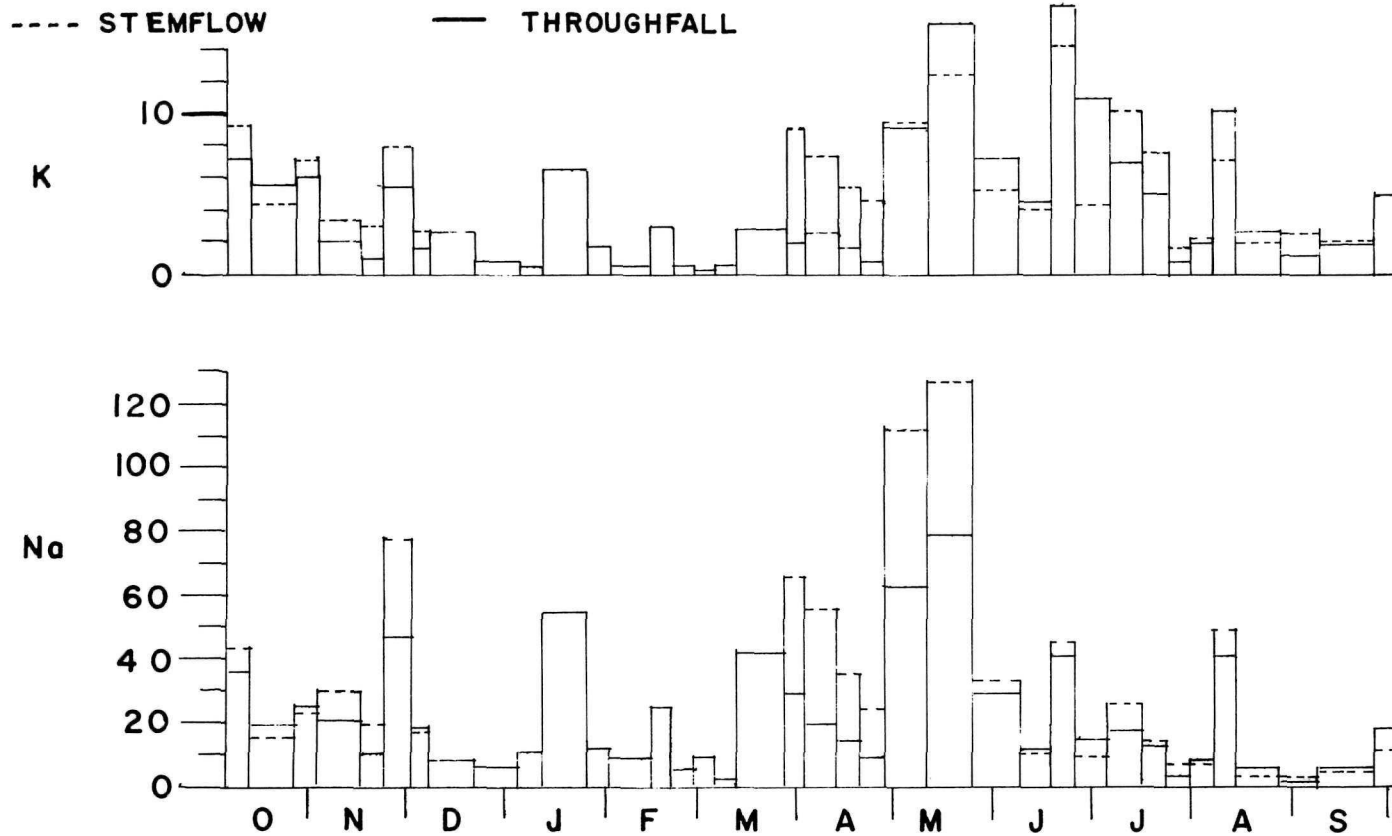


Fig. D-6. Gross leaching cation concentrations (mg/l).

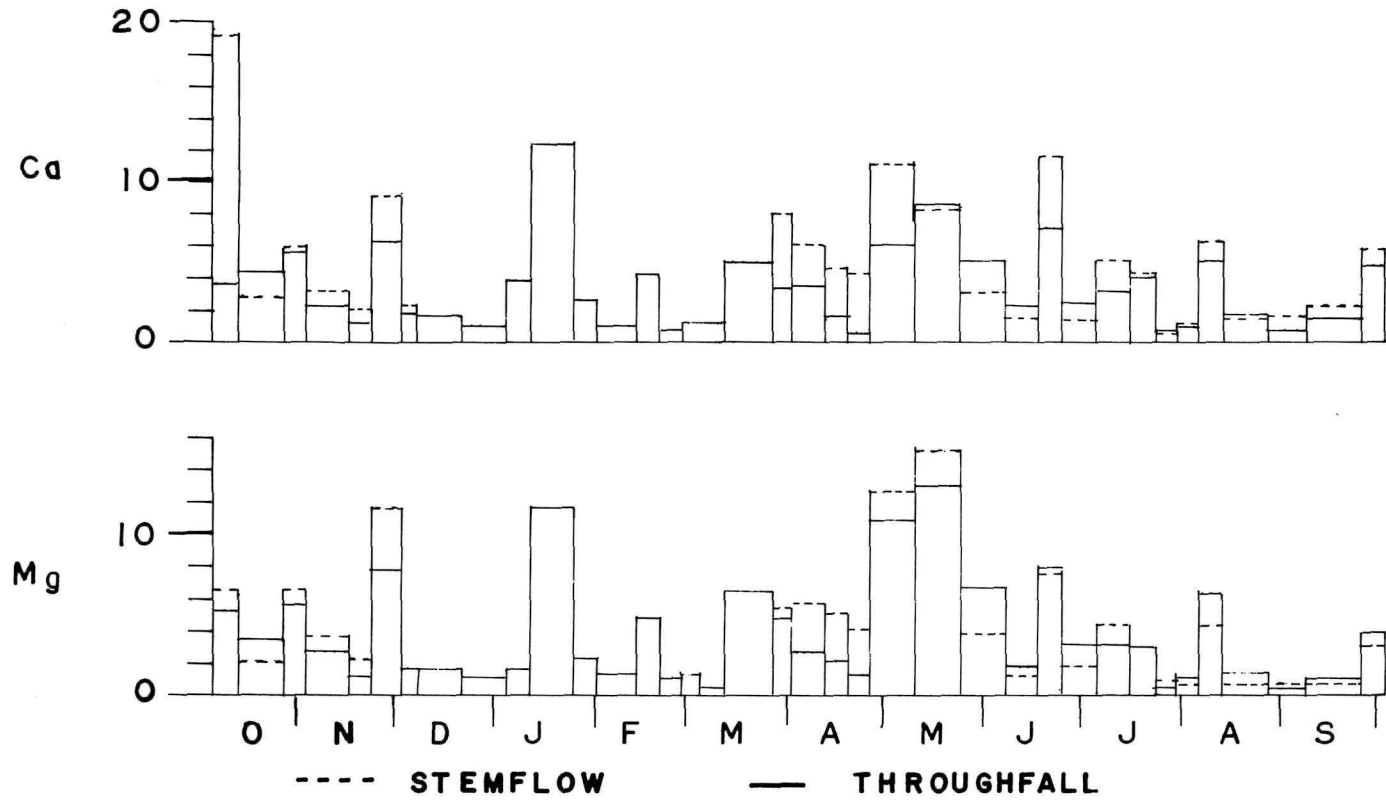


Fig. D-7. Gross leaching cation concentrations (mg/l).