

PILGRIM NUCLEAR POWER STATION

Facility Operating License DPR-35

Radiological Effluent and Waste Disposal Report

January 1 through December 31, 2003



3.0 METEOROLOGICAL DATA

Meteorological data are summarized for the reporting period in Appendix A, in the standard joint frequency distribution format as given in NRC Regulatory Guide 1.21.

The predominant meteorological conditions observed during the annual reporting period can be summarized with their corresponding frequencies as follows:

- Stability Class: Class D, 29%
- Wind Direction (from): South-southwest, 11%
- 33-ft Wind Speed: 4-7 mph, 54%
- 220-ft Wind Speed: 13-18 mph, 32%

There were a number of instances when data collection from the 220-ft meteorological tower was not continuous. During the course of 2003, numerous problems were encountered with meteorological sensors and translator card electronics. Data recovery for the entire annual period was about 79% for the 33-ft level, and 67% for the 220-ft level of the tower. These data recovery values are well below the NRC's recommended annual recovery goal of 90%. Steps have been taken to perform backups of the database computer, as well as performing qualitative data screening on a weekly basis to identify malfunctioning sensors and facilitate more timely repairs. A detailed engineering design plan is being implemented to upgrade meteorological instrumentation to increase reliability and data recovery.

APPENDIX A

Meteorological Joint Frequency Distributions

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Table A-1
Distributions of Wind Directions and Speeds
For the 33-ft level of the 220-ft Tower

January-March 2003

Class A Freq: 0.064

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	1	17	0	0	0	0	0	0	0	0	3	11	10	5	4	0	51
7.5-12.5	4	4	0	0	0	0	0	0	1	1	0	3	10	5	6	7	41
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	21	0	0	0	0	0	0	1	1	3	14	20	10	10	7	92

Class B Freq: 0.015

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	0	3	0	0	0	0	0	0	0	0	1	3	2	0	0	1	10
7.5-12.5	0	0	0	0	0	0	0	0	1	0	3	0	4	1	1	0	10
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	3	0	0	0	0	0	0	1	0	4	3	7	1	1	1	21

Class C Freq: 0.026

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	4
3.5-7.5	2	4	0	0	0	0	3	1	0	0	3	3	0	1	4	0	21
7.5-12.5	0	0	0	0	0	0	0	0	1	0	0	0	6	2	2	0	11
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	5	0	0	0	0	3	1	1	0	3	4	8	4	7	0	38

Class D Freq: 0.119

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0.95-3.5	1	1	1	2	0	1	0	2	1	5	2	3	0	0	0	0	19
3.5-7.5	5	3	3	0	0	1	3	3	3	3	5	24	10	1	11	7	82
7.5-12.5	0	0	0	0	0	0	2	1	1	0	5	3	30	8	13	3	66
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	4	4	2	1	2	5	6	5	8	12	30	41	10	25	10	171

Table A-1 (continued)

January-March 2003

Class E Freq: 0.224

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2
0.95-3.5	0	2	3	2	3	2	2	5	11	11	19	7	4	4	3	0	78
3.5-7.5	0	8	7	11	7	2	1	4	5	13	28	25	15	3	2	4	135
7.5-12.5	2	1	0	4	0	0	1	0	0	3	3	3	36	17	10	9	89
12.5-18.5	0	0	0	7	0	0	0	0	0	0	0	0	5	5	0	0	17
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	12	10	24	10	4	4	9	16	27	50	35	61	29	15	13	321

Class F Freq: 0.338

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	3	3	1	3	1	6	8	12	5	1	1	7	8	2	4	65
3.5-7.5	11	18	15	8	7	8	8	14	32	45	28	18	8	8	12	6	246
7.5-12.5	7	12	26	3	1	1	1	0	11	43	10	3	15	10	3	7	153
12.5-18.5	0	0	13	3	0	0	0	0	2	0	0	0	4	0	0	0	22
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	18	33	57	15	11	10	15	22	57	93	39	22	34	26	17	17	486

Class G Freq: 0.214

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0.95-3.5	2	1	2	3	4	3	3	1	1	1	4	7	8	5	6	0	51
3.5-7.5	6	2	1	2	4	4	12	11	10	18	14	15	7	13	9	10	138
7.5-12.5	5	0	0	0	0	0	5	8	17	52	5	1	8	1	0	2	104
12.5-18.5	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	0	13
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13	3	3	5	8	7	21	20	37	75	23	23	23	19	15	12	307

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	4
0.95-3.5	3	8	9	8	10	7	11	16	25	22	26	19	19	18	12	4	217
3.5-7.5	25	55	26	21	18	15	27	33	50	79	82	99	52	31	42	28	683
7.5-12.5	18	17	26	7	1	1	9	9	32	99	26	13	109	44	35	28	474
12.5-18.5	0	0	13	10	0	0	0	0	11	4	0	0	13	6	1	0	58
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	46	81	74	46	30	23	48	58	118	204	134	131	194	99	90	60	1436

Table A-1 (continued)

April-June 2003

Class A Freq: 0.379

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	10	8	9	7	8	3	9	4	1	3	1	1	4	4	5	8	85
3.5-7.5	86	114	27	32	28	26	15	8	2	14	14	7	12	14	6	27	432
7.5-12.5	16	18	23	10	8	8	2	2	10	54	5	1	0	0	6	13	176
12.5-18.5	0	1	0	0	0	0	0	0	1	2	1	0	0	0	1	3	9
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	112	141	59	49	44	37	26	14	14	73	21	9	16	18	18	51	702

Class B Freq: 0.056

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	3	2	1	2	3	2	5	1	1	1	1	0	1	2	2	3	30
3.5-7.5	4	13	3	3	6	5	1	1	2	5	1	0	0	1	1	2	48
7.5-12.5	0	1	0	4	0	3	0	0	2	9	1	1	0	2	0	0	23
12.5-18.5	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	16	4	9	9	10	6	2	6	16	3	1	1	5	3	5	103

Class C Freq: 0.056

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	3	2	0	2	1	2	2	0	0	1	1	0	0	1	0	16
3.5-7.5	2	10	5	5	8	6	3	2	2	5	3	4	2	1	1	1	60
7.5-12.5	2	2	3	5	1	3	0	0	1	6	1	0	2	2	0	0	28
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	15	10	10	11	10	5	4	3	11	5	5	4	3	2	1	104

Class D Freq: 0.214

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0.95-3.5	7	17	13	10	15	12	4	7	3	4	10	2	2	7	0	4	117
3.5-7.5	2	18	30	22	25	11	11	4	9	17	11	15	13	3	2	2	195
7.5-12.5	1	4	12	6	5	5	4	0	7	15	8	0	7	3	1	0	78
12.5-18.5	0	2	0	0	0	0	0	0	0	1	2	0	0	0	0	0	5
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	41	56	38	45	28	19	11	19	37	31	17	22	13	3	6	396

Table A-1 (continued)

April-June 2003

Class E Freq: 0.175

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0.95-3.5	5	17	6	12	9	12	10	11	3	4	5	4	13	1	1	1	114
3.5-7.5	3	10	13	14	9	10	14	9	14	12	16	11	8	1	0	2	146
7.5-12.5	0	1	1	0	0	0	1	1	3	37	4	0	8	0	0	0	56
12.5-18.5	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	8
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	8	28	20	26	18	22	25	21	20	59	28	15	29	2	1	3	325

Class F Freq: 0.078

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	3	5	4	0	4	2	4	0	4	4	4	3	4	0	42
3.5-7.5	3	3	6	2	1	1	3	1	2	13	16	8	6	1	1	4	71
7.5-12.5	0	0	14	0	0	0	0	0	0	11	6	0	0	0	0	0	31
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	4	23	7	5	1	7	3	6	24	26	12	10	4	5	4	144

Class G Freq: 0.043

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0.95-3.5	0	0	1	1	0	1	3	1	1	1	4	1	1	0	0	0	15
3.5-7.5	0	1	6	0	0	0	1	1	0	5	9	2	1	0	0	1	27
7.5-12.5	0	1	15	0	0	0	1	0	0	7	13	0	0	0	0	0	37
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	2	22	1	0	1	5	2	1	13	26	4	2	0	0	1	80

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	3
0.95-3.5	26	48	35	37	41	31	37	28	13	13	26	13	25	17	13	16	419
3.5-7.5	100	169	90	78	77	59	48	26	31	71	70	47	42	21	11	39	979
7.5-12.5	19	27	68	25	14	19	8	3	23	139	38	2	17	7	7	13	429
12.5-18.5	0	3	0	0	0	0	0	0	2	9	6	0	0	0	1	3	24
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	145	247	194	140	132	109	93	57	69	233	140	63	84	45	32	71	1854

Table A-1 (continued)

July-September 2003

Class A Freq: 0.097

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	4	4	1	0	0	0	0	0	0	0	0	0	0	0	2	1	12
3.5-7.5	11	28	13	13	5	1	1	0	6	10	9	1	4	4	0	10	116
7.5-12.5	0	0	4	2	0	0	0	0	2	3	0	0	0	2	0	0	13
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	15	32	18	15	5	1	1	0	8	13	9	1	4	6	2	11	141

Class B Freq: 0.037

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	1	0	0	0	1	0	1	0	0	0	1	0	2	2	9
3.5-7.5	1	1	5	7	3	1	0	0	3	2	4	3	2	2	3	0	37
7.5-12.5	0	0	1	0	0	0	0	0	5	2	0	0	0	0	0	0	8
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	2	7	7	3	1	1	0	9	4	4	3	3	2	5	2	54

Class C Freq: 0.045

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	2	2	0	0	0	0	0	0	0	0	0	0	1	1	2	5	13
3.5-7.5	1	4	1	3	3	3	3	0	10	9	1	3	1	2	0	0	44
7.5-12.5	0	0	1	0	0	1	0	0	3	2	0	0	1	0	0	0	8
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	6	2	3	3	4	3	0	13	11	1	3	3	3	2	5	65

Class D Freq: 0.358

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	5	2	7	12	9	14	11	8	8	3	5	5	5	2	6	4	106
3.5-7.5	1	13	18	15	32	34	15	15	85	96	20	10	5	4	1	2	366
7.5-12.5	0	0	1	0	0	5	2	7	12	20	0	0	1	0	0	0	48
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	15	26	27	41	53	28	30	105	119	25	15	11	6	7	6	520

Table A-1 (continued)

July-September 2003

Class E Freq: 0.292

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	4	8	8	8	6	10	21	15	16	5	7	5	15	16	14	9	167
3.5-7.5	4	11	16	9	23	9	9	6	34	36	29	33	13	6	5	1	244
7.5-12.5	0	2	0	0	0	0	0	0	7	3	1	0	0	0	0	0	13
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	8	21	24	17	29	19	30	21	57	44	37	38	28	22	19	10	424

Class F Freq: 0.142

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	0	1	2	0	3	1	10	11	7	10	9	15	14	4	1	89
3.5-7.5	0	0	0	1	1	0	0	0	17	22	47	15	3	2	0	0	108
7.5-12.5	0	0	0	0	0	0	0	0	0	2	7	0	0	0	0	0	9
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	1	3	1	3	1	10	28	31	64	24	18	16	4	1	206

Class G Freq: 0.030

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	1	0	0	2	0	1	5	7	4	1	2	2	1	26
3.5-7.5	0	0	0	0	0	0	0	0	0	1	11	2	1	0	0	0	15
7.5-12.5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	1	0	0	2	0	1	6	20	6	2	2	2	1	43

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	16	17	18	23	15	27	36	33	37	20	29	23	38	35	32	23	422
3.5-7.5	18	57	53	48	67	48	28	21	155	176	121	67	29	20	9	13	930
7.5-12.5	0	2	7	2	0	6	2	7	29	32	10	0	2	2	0	0	101
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	34	76	78	73	82	81	66	61	221	228	160	90	69	57	41	36	1453

Table A-1 (continued)

October-December 2003

Class A Freq: 0.107

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	4
3.5-7.5	11	9	2	5	6	4	2	3	4	3	5	8	11	16	12	6	107
7.5-12.5	4	0	3	0	1	1	0	4	3	4	2	9	5	8	15	0	59
12.5-18.5	4	4	14	0	7	3	4	1	2	0	1	0	0	0	6	1	47
18.5-24	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	19	23	23	5	14	9	6	8	9	7	8	17	16	24	33	8	229

Class B Freq: 0.037

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	1	0	0	0	0	0	0	1	1	1	1	0	0	0	1	7
3.5-7.5	1	4	3	2	1	1	0	1	1	3	4	5	4	4	4	2	40
7.5-12.5	0	1	5	0	1	0	0	1	4	1	1	2	2	4	4	1	27
12.5-18.5	0	0	2	0	0	0	0	0	0	0	0	0	2	0	1	0	5
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	6	10	2	2	1	0	2	6	5	6	8	8	8	9	4	79

Class C Freq: 0.041

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	1	4
3.5-7.5	4	5	2	2	2	1	1	0	2	3	3	4	2	4	6	1	42
7.5-12.5	1	0	2	1	0	0	2	3	5	2	4	6	6	3	2	1	38
12.5-18.5	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	4
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	5	5	4	3	2	1	3	3	8	5	9	10	12	7	8	3	88

Class D Freq: 0.415

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	13	2	12	4	6	10	11	8	3	3	4	3	5	4	13	11	112
3.5-7.5	18	44	26	6	17	12	21	26	18	21	40	46	52	30	34	7	418
7.5-12.5	1	7	0	6	5	9	21	19	44	24	21	39	57	32	20	1	306
12.5-18.5	0	0	0	4	1	0	1	8	8	3	1	3	15	8	1	0	53
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	32	53	38	20	29	31	54	61	73	51	66	91	129	74	68	19	889

Table A-1 (continued)

October-December 2003

Class E Freq: 0.287

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
0.95-3.5	2	2	1	1	0	4	17	10	13	7	25	19	11	5	4	7	128
3.5-7.5	9	12	0	0	2	4	21	15	20	38	53	99	44	21	21	2	361
7.5-12.5	1	0	0	0	0	1	4	4	12	32	23	24	15	2	2	0	120
12.5-18.5	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	5
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	12	14	1	1	2	9	42	29	45	77	104	142	72	28	28	9	615

Class F Freq: 0.091

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0.95-3.5	0	0	0	0	0	1	2	6	4	7	9	20	6	3	3	1	62
3.5-7.5	0	0	0	0	0	0	0	3	6	20	63	24	4	2	0	0	122
7.5-12.5	0	0	0	0	0	0	1	0	0	5	4	0	0	0	0	0	10
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	1	3	9	10	32	76	44	11	5	3	1	195

Class G Freq: 0.022

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	1	2	3	1	0	0	0	7
3.5-7.5	0	0	0	0	0	0	0	0	1	0	30	4	1	0	0	0	36
7.5-12.5	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	5
12.5-18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	1	2	36	7	2	0	0	0	48

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2
0.95-3.5	16	6	14	5	6	16	30	24	21	19	42	46	25	12	20	22	324
3.5-7.5	43	74	33	15	28	22	45	48	52	88	198	190	118	77	77	18	1126
7.5-12.5	7	8	10	7	7	11	28	31	68	69	59	80	85	49	43	3	565
12.5-18.5	4	4	16	4	8	3	5	9	11	3	6	3	21	8	8	1	114
18.5-24	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	70	101	76	31	49	52	108	112	152	179	305	319	250	146	149	44	2143

Table A-1 (continued)

January-December 2003

Class A Freq: 0.169

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	14	13	11	7	8	4	9	4	1	3	1	1	4	4	7	10	101
3.5-7.5	109	168	42	50	39	31	18	11	12	27	31	27	37	39	22	43	706
7.5-12.5	24	22	30	12	9	9	2	6	16	62	7	13	15	15	27	20	289
12.5-18.5	4	5	14	0	7	3	4	1	3	2	2	0	0	0	7	4	56
18.5-24	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	151	217	100	69	63	47	33	22	32	94	41	41	56	58	63	77	1164

Class B Freq: 0.037

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	4	4	2	2	3	2	6	1	3	2	2	1	2	2	4	6	46
3.5-7.5	6	21	11	12	10	7	1	2	6	10	10	11	8	7	8	5	135
7.5-12.5	0	2	6	4	1	3	0	1	12	12	5	3	6	7	5	1	68
12.5-18.5	0	0	2	0	0	0	0	0	1	1	0	0	3	0	1	0	8
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	10	27	21	18	14	12	7	4	22	25	17	15	19	16	18	12	257

Class C Freq: 0.043

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	3	6	2	0	2	1	2	2	0	0	2	2	3	2	4	6	37
3.5-7.5	9	23	8	10	13	10	10	3	14	17	10	14	5	8	11	2	167
7.5-12.5	3	2	6	6	1	4	2	3	10	10	5	6	15	7	4	1	85
12.5-18.5	0	0	0	0	0	0	0	0	1	0	1	0	4	0	0	0	6
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	15	31	16	16	16	15	14	8	25	27	18	22	27	17	19	9	295

Class D Freq: 0.287

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
0.95-3.5	26	22	33	28	30	37	26	25	15	15	21	13	12	13	19	19	354
3.5-7.5	26	78	77	43	74	58	50	48	115	137	76	95	80	38	48	18	1061
7.5-12.5	2	11	13	12	10	19	29	27	64	59	34	42	95	43	34	4	498
12.5-18.5	0	2	0	4	1	0	1	8	8	4	3	3	16	9	2	0	61
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	54	113	124	87	116	114	106	108	202	215	134	153	203	103	103	41	1976

Table A-1 (continued)

January-December 2003

Class E Freq: 0.245

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	4
0.95-3.5	11	29	18	23	18	28	50	41	43	27	56	35	43	26	22	17	487
3.5-7.5	16	41	36	34	41	25	45	34	73	99	126	168	80	31	28	9	886
7.5-12.5	3	4	1	4	0	1	6	5	22	75	31	27	59	19	12	9	278
12.5-18.5	0	0	0	7	0	0	0	0	0	5	6	0	7	5	0	0	30
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	30	75	55	68	59	54	101	80	138	207	219	230	190	81	63	35	1685

Class F Freq: 0.150

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
0.95-3.5	1	4	7	8	7	5	13	26	31	19	24	34	32	28	13	6	258
3.5-7.5	14	21	21	11	9	9	11	18	57	100	154	65	21	13	13	10	547
7.5-12.5	7	12	40	3	1	1	2	0	11	61	27	3	15	10	3	7	203
12.5-18.5	0	0	13	3	0	0	0	0	2	0	0	0	4	0	0	0	22
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	22	37	81	25	17	15	26	44	101	180	205	102	73	51	29	23	1031

Class G Freq: 0.069

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	2
0.95-3.5	2	1	3	5	4	4	8	2	3	8	17	15	11	7	8	1	99
3.5-7.5	6	3	7	2	4	4	13	12	11	24	64	23	10	13	9	11	216
7.5-12.5	5	1	15	0	0	0	6	8	17	60	24	1	8	1	0	2	148
12.5-18.5	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	0	13
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	13	5	25	7	8	8	28	22	40	96	105	40	29	21	17	14	478

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	1	1	0	1	0	1	0	0	1	0	1	2	0	1	0	9
0.95-3.5	61	79	76	73	72	81	114	101	96	74	123	101	107	82	77	65	1382
3.5-7.5	186	355	202	162	190	144	148	128	288	414	471	403	241	149	139	98	3718
7.5-12.5	44	54	111	41	22	37	47	50	152	339	133	95	213	102	85	44	1569
12.5-18.5	4	7	29	14	8	3	5	9	24	16	12	3	34	14	10	4	196
18.5-24	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	12
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	295	505	422	290	293	265	315	288	560	844	739	603	597	347	312	211	6886

Table A-2
Distributions of Wind Directions and Speeds
For the 220-ft level of the 220-ft Tower

January-March 2003

Class A Freq: 0.068

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
7.5-12.5	0	0	0	0	0	0	0	1	2	0	0	5	6	5	0	0	19
12.5-18.5	0	0	0	0	0	0	0	2	6	0	0	7	5	7	1	0	28
18.5-24	0	0	0	0	0	0	0	3	5	2	2	3	3	8	3	0	29
>24	0	0	0	0	0	0	0	0	0	1	0	0	1	3	1	9	15
TOTAL	0	0	0	0	0	0	0	7	13	3	2	15	15	23	5	9	92

Class B Freq: 0.015

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
7.5-12.5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
12.5-18.5	0	0	0	0	0	0	0	1	0	0	2	2	2	0	0	0	7
18.5-24	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	4
>24	0	0	0	0	0	0	0	0	0	0	0	0	2	5	0	0	7
TOTAL	0	0	0	0	0	1	1	1	0	1	2	4	4	5	0	1	20

Class C Freq: 0.027

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
7.5-12.5	0	0	0	0	1	0	0	0	2	0	1	1	0	1	1	0	7
12.5-18.5	0	0	0	0	0	0	1	2	3	0	0	2	1	1	3	0	13
18.5-24	0	0	0	0	0	2	0	0	1	0	0	0	2	0	2	0	7
>24	0	0	0	0	0	0	0	0	0	0	0	1	0	7	0	0	8
TOTAL	0	0	0	0	1	2	1	2	6	0	1	4	4	9	6	1	37

Class D Freq: 0.117

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3
3.5-7.5	0	1	0	1	0	1	1	0	0	4	1	0	0	1	0	1	11
7.5-12.5	0	0	0	0	0	1	0	1	2	1	7	8	2	0	1	4	27
12.5-18.5	0	0	1	0	0	3	1	0	2	1	2	6	18	2	6	6	48
18.5-24	0	0	0	0	0	1	1	1	1	0	3	6	13	6	12	0	44
>24	0	0	0	0	0	0	0	0	0	0	0	6	5	7	8	0	26
TOTAL	0	1	1	1	0	6	3	2	6	8	13	26	38	16	27	11	159

Table A-2 (continued)

January-March 2003

Class E Freq: 0.228

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	1	0	0	0	0	2	1	2	0	0	1	2	1	0	10
3.5-7.5	1	0	3	3	0	5	6	3	1	5	0	1	6	3	2	2	41
7.5-12.5	1	1	0	2	9	4	6	1	3	4	3	14	8	7	2	0	65
12.5-18.5	3	0	0	3	2	4	7	0	4	3	9	17	22	5	2	1	82
18.5-24	5	0	0	0	0	1	6	0	0	0	0	8	11	18	3	2	54
>24	9	0	0	0	0	0	8	0	0	0	0	1	11	20	6	2	57
TOTAL	19	1	4	8	11	14	33	6	9	14	12	41	59	55	16	7	309

Class F Freq: 0.325

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	6
3.5-7.5	1	2	5	0	4	5	3	10	5	2	4	2	3	2	1	2	51
7.5-12.5	2	3	4	2	2	3	5	8	20	16	15	7	7	4	8	4	110
12.5-18.5	1	7	1	12	1	0	3	1	11	12	34	13	8	3	4	6	117
18.5-24	0	2	1	4	7	1	4	0	1	15	20	9	6	4	8	7	89
>24	5	3	0	0	7	10	4	0	1	3	2	1	7	15	1	9	68
TOTAL	10	20	12	18	21	19	20	19	38	48	75	32	31	28	22	28	441

Class G Freq: 0.220

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	0	0	0	1	1	0	2	1	0	0	1	0	0	2	9
3.5-7.5	4	5	2	2	0	1	1	1	1	1	1	3	2	2	2	2	30
7.5-12.5	1	0	0	0	0	2	10	1	6	6	12	2	6	12	6	6	70
12.5-18.5	4	0	0	0	0	1	4	9	16	14	18	12	8	3	4	7	100
18.5-24	4	0	0	0	0	0	6	7	5	14	10	2	2	4	0	5	59
>24	5	0	0	0	0	0	0	0	4	8	4	2	1	4	0	3	31
TOTAL	18	6	2	2	0	5	22	18	34	44	45	21	20	25	12	25	299

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	4	2	0	0	1	2	2	4	5	0	0	2	2	1	2	28
3.5-7.5	6	8	10	6	4	12	11	15	7	12	6	7	12	8	5	8	137
7.5-12.5	4	4	4	4	12	10	21	12	35	27	38	38	29	29	18	14	299
12.5-18.5	8	7	2	15	3	8	16	15	42	30	65	59	64	21	20	20	395
18.5-24	9	2	1	4	7	6	18	11	13	32	35	28	37	40	28	15	286
>24	19	3	0	0	7	10	12	0	5	12	6	11	27	61	16	23	212
TOTAL	47	28	19	29	33	47	80	55	106	118	150	143	171	161	88	82	1357

Table A-2 (continued)

April-June 2003

Class A Freq: 0.404

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	3
3.5-7.5	6	3	8	4	5	3	6	3	2	2	3	3	3	1	0	0	52
7.5-12.5	11	17	19	7	6	10	11	5	1	7	7	6	5	4	1	6	123
12.5-18.5	33	24	19	9	11	7	5	5	4	9	4	1	0	0	3	11	145
18.5-24	7	10	3	4	2	4	1	0	1	18	9	0	0	1	1	4	65
>24	14	0	1	0	4	0	0	0	0	2	2	0	0	0	0	17	40
TOTAL	71	54	50	24	28	24	23	14	8	38	25	11	8	6	6	38	428

Class B Freq: 0.052

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
3.5-7.5	2	3	1	0	0	1	1	2	1	2	0	1	0	1	0	0	15
7.5-12.5	0	3	2	1	1	2	2	1	0	1	0	0	0	0	0	1	14
12.5-18.5	1	2	0	1	0	1	0	0	1	0	4	0	0	0	0	1	11
18.5-24	0	0	0	3	0	1	0	0	0	3	0	0	0	1	0	0	8
>24	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	4
TOTAL	4	9	4	5	1	5	3	3	2	7	5	1	0	2	1	3	55

Class C Freq: 0.059

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	2	1	0	1	0	0	0	0	0	0	0	0	0	1	0	5
3.5-7.5	0	1	2	0	1	1	0	0	0	0	0	1	0	1	1	1	9
7.5-12.5	0	4	3	0	2	2	0	1	1	1	0	2	2	0	0	0	18
12.5-18.5	0	2	2	2	0	1	2	1	0	2	1	1	0	1	0	0	15
18.5-24	0	1	0	3	1	1	0	0	0	0	2	0	0	3	0	0	11
>24	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	5
TOTAL	2	11	9	5	5	5	2	2	1	4	3	4	2	5	2	1	63

Class D Freq: 0.208

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	3	1	1	1	0	1	1	2	0	2	0	1	2	1	16
3.5-7.5	3	2	7	6	8	7	4	1	3	1	2	3	2	1	4	0	54
7.5-12.5	0	3	3	6	3	3	4	3	2	0	2	7	5	0	0	1	42
12.5-18.5	0	0	4	8	16	3	4	4	0	2	1	5	8	7	1	0	63
18.5-24	0	1	0	6	2	1	3	0	0	8	0	0	0	6	1	1	29
>24	1	6	0	0	0	0	0	0	0	0	6	0	0	1	3	0	17
TOTAL	4	12	17	27	30	15	15	9	6	13	11	17	15	16	11	3	221

Table A-2 (continued)

April-June 2003

Class E Freq: 0.170

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	2	0	1	2	2	0	0	2	0	0	0	1	0	1	0	11
3.5-7.5	0	2	4	4	1	6	3	1	4	0	1	2	1	1	1	1	32
7.5-12.5	2	2	2	0	6	6	5	6	4	2	1	0	7	5	0	1	49
12.5-18.5	2	0	0	0	1	0	0	7	12	5	2	1	6	6	0	0	42
18.5-24	1	0	0	0	0	0	0	1	2	5	15	0	0	0	0	0	24
>24	0	0	0	0	0	0	0	0	0	2	20	0	0	0	0	0	22
TOTAL	5	6	6	5	10	14	8	15	24	14	39	3	15	12	2	2	180

Class F Freq: 0.076

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	1	1	1	0	4	1	0	1	1	0	0	0	0	10
3.5-7.5	0	0	1	0	0	1	1	2	1	1	1	0	1	0	3	0	12
7.5-12.5	1	0	0	0	0	0	1	3	4	2	7	3	7	1	2	3	34
12.5-18.5	0	0	0	0	0	0	0	0	0	1	3	4	5	1	2	0	16
18.5-24	3	1	0	0	0	0	0	0	0	1	1	1	0	1	0	0	8
>24	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL	4	2	1	1	1	2	2	9	6	5	13	9	13	3	7	3	81

Class G Freq: 0.030

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	1	0	2	1	1	0	1	0	0	0	0	6
3.5-7.5	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	4
7.5-12.5	0	0	0	0	0	0	1	0	0	3	2	3	4	0	0	1	14
12.5-18.5	0	0	0	0	0	0	0	0	0	1	2	0	3	0	1	0	7
18.5-24	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	0	0	0	1	1	2	1	5	4	5	9	1	1	1	32

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	5	4	3	5	5	0	8	5	3	1	5	1	1	5	2	54
3.5-7.5	11	11	23	14	15	19	15	9	11	6	7	11	9	6	9	2	178
7.5-12.5	14	29	29	14	18	23	24	19	12	16	19	21	30	10	3	13	294
12.5-18.5	36	28	25	20	28	12	11	17	17	20	17	12	22	15	7	12	299
18.5-24	12	13	3	16	5	7	4	1	3	35	27	1	0	12	2	5	146
>24	17	8	3	0	4	0	0	0	0	6	29	0	0	1	4	17	89
TOTAL	91	94	87	67	75	66	54	54	48	86	100	50	62	45	30	51	1060

Table A-2 (continued)

July-September 2003

Class A Freq: 0.097

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	5	10	7	3	1	0	0	0	1	0	2	0	0	0	1	4	34
7.5-12.5	11	7	6	2	6	1	1	0	2	2	2	2	1	3	0	7	53
12.5-18.5	2	9	1	5	2	0	1	0	2	3	10	0	0	1	0	3	39
18.5-24	0	0	3	2	0	0	0	0	1	2	2	0	0	5	0	0	15
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	18	26	17	12	9	1	2	0	6	7	16	2	1	9	1	14	141

Class B Freq: 0.037

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	1	2	2	2	2	0	0	0	0	1	0	0	2	2	3	0	17
7.5-12.5	0	0	0	1	1	1	1	0	2	0	1	3	1	1	0	2	14
12.5-18.5	0	0	2	0	1	1	1	0	2	4	2	1	0	2	0	0	16
18.5-24	0	1	1	2	0	0	0	0	1	2	0	0	0	0	0	0	7
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	3	5	5	4	2	2	0	5	7	3	4	3	5	3	2	54

Class C Freq: 0.045

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	0	1	0	1	0	0	0	0	0	1	1	0	2	0	1	1	8
7.5-12.5	6	3	2	1	0	1	4	1	4	5	3	0	1	0	1	1	33
12.5-18.5	1	1	1	1	1	0	2	0	2	5	0	1	0	0	1	0	16
18.5-24	0	0	0	0	0	1	0	0	0	3	1	0	2	1	0	0	8
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	5	3	3	1	2	6	1	6	14	5	1	5	1	3	2	65

Class D Freq: 0.358

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	1	5
3.5-7.5	4	4	8	9	9	9	5	3	1	5	4	5	5	1	2	4	78
7.5-12.5	4	1	9	11	7	15	22	7	30	53	16	9	3	0	3	2	192
12.5-18.5	0	4	6	6	10	10	20	8	18	79	26	4	4	2	1	0	198
18.5-24	0	2	0	2	2	5	6	6	2	13	2	0	1	4	0	0	45
>24	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
TOTAL	8	11	25	28	29	40	53	26	51	150	48	18	13	7	6	7	520

Table A-2 (continued)

July-September 2003

Class E Freq: 0.292

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	3	1	1	1	1	0	0	0	0	0	0	0	0	1	0	9
3.5-7.5	6	6	2	1	4	3	3	2	4	2	4	1	4	2	3	4	51
7.5-12.5	6	1	9	15	5	20	10	11	9	19	6	3	3	0	10	12	139
12.5-18.5	5	6	4	5	12	3	12	11	9	28	16	16	21	18	6	4	176
18.5-24	5	7	0	0	0	0	0	4	1	12	9	0	1	6	2	0	47
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
TOTAL	23	23	16	22	22	27	25	28	23	61	35	20	29	26	22	22	424

Class F Freq: 0.142

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3
3.5-7.5	2	0	4	0	1	5	6	3	2	0	1	2	2	3	0	0	31
7.5-12.5	0	0	0	0	3	5	3	4	2	4	0	2	2	5	7	10	47
12.5-18.5	1	0	0	0	0	0	0	7	8	11	16	22	11	10	6	11	103
18.5-24	0	0	0	0	0	0	0	1	0	3	10	3	2	2	1	0	22
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	1	4	0	4	10	10	16	12	18	27	29	17	20	14	21	206

Class G Freq: 0.030

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
3.5-7.5	0	0	1	2	1	1	1	2	0	2	1	1	1	0	0	1	14
7.5-12.5	0	0	0	0	0	0	0	1	3	2	2	2	2	0	2	1	15
12.5-18.5	1	0	0	0	0	0	0	0	0	1	1	3	3	1	0	0	10
18.5-24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
>24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	0	1	2	1	2	1	5	3	5	4	6	6	1	3	2	43

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	4	3	1	2	3	1	3	0	0	0	0	0	0	1	1	20
3.5-7.5	18	23	24	18	18	18	15	10	8	11	13	9	16	8	10	14	233
7.5-12.5	27	12	26	30	22	43	41	24	52	85	30	21	13	9	23	35	493
12.5-18.5	10	20	14	17	26	14	36	26	41	131	71	47	39	34	14	18	558
18.5-24	5	10	4	6	2	6	6	11	5	35	24	3	6	18	4	0	145
>24	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	4
TOTAL	61	69	71	72	70	84	99	76	106	262	138	80	74	69	52	70	1453

Table A-2 (continued)

October-December 2003

Class A Freq: 0.108

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	2	3	2	3	3	0	0	0	0	0	0	0	1	1	2	4	21
7.5-12.5	1	2	0	1	4	4	2	2	2	2	2	2	6	1	2	2	35
12.5-18.5	6	0	2	0	0	0	2	0	4	6	0	7	5	7	7	1	47
18.5-24	3	0	2	0	0	1	2	1	0	1	4	2	2	7	9	2	36
>24	7	10	16	0	8	3	5	3	0	0	1	2	2	3	15	3	78
TOTAL	19	15	22	4	15	8	11	6	6	9	7	13	16	19	35	12	217

Class B Freq: 0.036

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3.5-7.5	1	3	0	1	1	0	0	0	2	0	1	0	3	0	2	1	15
7.5-12.5	1	1	3	0	1	1	0	1	0	1	3	3	0	0	0	0	15
12.5-18.5	0	0	1	0	0	0	0	1	3	0	2	2	0	3	3	0	15
18.5-24	0	0	2	1	0	0	0	1	2	1	0	2	1	2	2	0	14
>24	1	0	2	1	1	0	0	0	0	0	0	0	0	3	5	0	13
TOTAL	3	4	8	3	3	1	0	3	8	2	6	7	4	8	12	1	73

Class C Freq: 0.039

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.5-7.5	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	2	6
7.5-12.5	1	1	1	0	0	1	1	0	1	0	2	1	0	2	0	1	12
12.5-18.5	0	2	2	1	0	1	0	1	3	2	6	4	1	1	5	0	29
18.5-24	0	0	0	2	0	0	0	4	1	0	2	1	3	2	3	2	20
>24	0	0	0	1	0	0	2	1	1	1	0	0	4	0	1	1	12
TOTAL	1	4	3	4	0	2	3	6	6	3	10	6	9	5	11	6	79

Class D Freq: 0.425

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	2	1	0	0	0	0	0	0	0	1	0	0	2	1	3	11
3.5-7.5	7	4	12	4	4	3	7	2	2	5	5	4	2	2	1	4	68
7.5-12.5	5	16	24	8	9	7	18	16	6	3	15	10	9	6	6	10	168
12.5-18.5	4	8	6	2	10	4	15	12	25	25	25	46	18	26	14	8	248
18.5-24	12	9	0	2	4	5	23	11	21	13	18	34	14	18	15	8	207
>24	1	0	1	6	3	3	7	12	5	5	5	23	27	36	18	1	153
TOTAL	30	39	44	22	30	22	70	53	59	51	69	117	70	90	55	34	855

Table A-2 (continued)

October-December 2003

Class E Freq: 0.288

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	0	2	0	1	0	2	1	1	1	1	1	1	1	0	1	14
3.5-7.5	1	2	2	2	3	2	2	3	5	2	2	2	5	6	3	1	43
7.5-12.5	5	3	1	1	2	6	11	7	11	7	15	13	20	19	4	5	130
12.5-18.5	9	0	0	0	0	3	19	8	16	22	32	36	36	28	16	6	231
18.5-24	2	0	0	0	0	2	4	3	11	29	33	20	16	5	4	1	130
>24	1	0	0	0	0	1	3	1	0	8	3	4	5	2	4	0	32
TOTAL	19	5	5	3	6	14	41	23	44	69	86	76	83	61	31	14	580

Class F Freq: 0.080

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	1	5
3.5-7.5	5	0	3	2	0	0	1	2	1	0	0	3	2	0	0	2	21
7.5-12.5	0	0	0	0	0	0	0	0	4	4	6	10	12	7	4	2	49
12.5-18.5	1	0	0	0	0	0	0	4	1	10	3	16	17	4	5	0	61
18.5-24	1	0	0	0	0	0	1	2	0	1	11	0	0	3	2	0	21
>24	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	5
TOTAL	7	0	3	2	0	0	2	9	7	17	23	29	31	16	11	5	162

Class G Freq: 0.024

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
3.5-7.5	0	1	0	0	0	0	0	0	0	1	0	3	1	0	1	0	7
7.5-12.5	0	0	0	0	0	0	0	0	0	2	2	7	5	7	0	0	23
12.5-18.5	0	0	0	0	0	0	0	0	1	1	0	3	2	2	0	0	9
18.5-24	0	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	4
>24	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
TOTAL	0	1	1	1	1	0	0	0	1	5	6	13	8	9	2	0	48

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	2	2	4	1	2	0	2	2	3	1	2	1	1	5	1	5	34
3.5-7.5	16	14	19	12	11	5	10	7	10	8	8	12	15	9	11	14	181
7.5-12.5	13	23	29	10	16	19	32	26	24	19	45	46	52	42	16	20	432
12.5-18.5	20	10	11	3	10	8	36	26	53	66	68	114	79	71	50	15	640
18.5-24	18	9	4	5	4	8	30	22	35	46	70	59	36	37	36	13	432
>24	10	10	19	8	12	7	17	17	6	16	14	29	38	44	43	5	295
TOTAL	79	68	86	39	55	47	127	100	131	156	207	261	221	208	157	72	2014

Table A-2 (continued)

January-December 2003

Class A Freq: 0.149

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	3
3.5-7.5	13	16	17	10	9	3	6	4	3	2	5	3	4	2	3	8	108
7.5-12.5	23	26	25	10	16	15	14	8	7	11	11	15	18	13	3	15	230
12.5-18.5	41	33	22	14	13	7	8	7	16	18	14	15	10	15	11	15	259
18.5-24	10	10	8	6	2	5	3	4	7	23	17	5	5	21	13	6	145
>24	21	10	17	0	12	3	5	3	0	3	3	2	3	6	16	29	133
TOTAL	108	95	89	40	52	33	36	27	33	57	50	41	40	57	47	73	878

Class B Freq: 0.034

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
3.5-7.5	4	8	3	3	3	1	1	2	3	3	1	2	5	3	5	1	48
7.5-12.5	1	4	5	2	3	4	3	2	2	2	4	7	1	1	0	3	44
12.5-18.5	1	2	3	1	1	2	1	2	6	4	10	5	2	5	3	1	49
18.5-24	0	1	3	6	0	2	1	1	3	7	0	2	1	3	2	1	33
>24	1	0	3	1	1	0	0	0	0	1	1	0	2	8	6	0	24
TOTAL	8	16	17	13	8	9	6	7	15	17	16	16	11	20	16	7	202

Class C Freq: 0.041

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	2	1	0	1	0	0	0	0	0	0	0	0	0	1	0	5
3.5-7.5	0	3	2	1	1	1	0	0	0	1	1	1	4	1	4	5	25
7.5-12.5	7	8	6	1	3	4	5	2	8	6	6	4	3	3	2	2	70
12.5-18.5	1	5	5	4	1	2	5	4	8	9	7	8	2	3	9	0	73
18.5-24	0	1	0	5	1	4	0	4	2	3	5	1	7	6	5	2	46
>24	2	1	1	1	0	0	2	1	1	2	0	1	4	7	1	1	25
TOTAL	10	20	15	12	7	11	12	11	19	21	19	15	20	20	22	10	244

Class D Freq: 0.298

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	2	6	1	2	2	0	1	2	4	1	2	0	3	3	5	35
3.5-7.5	14	11	27	20	21	20	17	6	6	15	12	12	9	5	7	9	211
7.5-12.5	9	20	36	25	19	26	44	27	40	57	40	34	19	6	10	17	429
12.5-18.5	4	12	17	16	36	20	40	24	45	107	54	61	48	37	22	14	557
18.5-24	12	12	0	10	8	12	33	18	24	34	23	40	28	34	28	9	325
>24	2	6	1	6	3	3	7	14	5	5	11	29	32	44	29	1	198
TOTAL	42	63	87	78	89	83	141	90	122	222	141	178	136	129	99	55	1755

Table A-2 (continued)

January-December 2003

Class E Freq: 0.254

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	2	5	4	2	4	3	2	3	4	3	1	1	3	3	3	1	44
3.5-7.5	8	10	11	10	8	16	14	9	14	9	7	6	16	12	9	8	167
7.5-12.5	14	7	12	18	22	36	32	25	27	32	25	30	38	31	16	18	383
12.5-18.5	19	6	4	8	15	10	38	26	41	58	59	70	85	57	24	11	531
18.5-24	13	7	0	0	0	3	10	8	14	46	57	28	28	29	9	3	255
>24	10	0	0	0	0	1	11	1	0	10	23	5	16	22	10	4	113
TOTAL	66	35	31	38	49	69	107	72	100	158	172	140	186	154	71	45	1493

Class F Freq: 0.151

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	1	4	1	1	1	1	2	6	2	0	1	1	0	2	0	1	24
3.5-7.5	8	2	13	2	5	11	11	17	9	3	6	7	8	5	4	4	115
7.5-12.5	3	3	4	2	5	8	9	15	30	26	28	22	28	17	21	19	240
12.5-18.5	3	7	1	12	1	0	3	12	20	34	56	55	41	18	17	17	297
18.5-24	4	3	1	4	7	1	5	3	1	20	42	13	8	10	11	7	140
>24	5	4	0	0	7	10	4	0	1	5	5	1	7	15	1	9	74
TOTAL	24	23	20	21	26	31	34	53	63	88	138	99	92	67	54	57	890

Class G Freq: 0.072

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	0	1	1	1	1	3	1	4	3	2	0	1	1	0	0	2	21
3.5-7.5	4	6	3	4	1	2	2	3	1	4	2	8	6	3	3	3	55
7.5-12.5	1	0	0	0	0	2	11	2	9	13	18	14	17	19	8	8	122
12.5-18.5	5	0	0	0	0	1	4	9	17	17	21	18	16	6	5	7	126
18.5-24	5	0	0	0	0	0	6	7	5	15	12	2	2	4	2	5	65
>24	5	0	0	0	0	0	0	0	4	8	6	2	1	4	0	3	33
TOTAL	20	7	4	5	2	8	24	25	39	59	59	45	43	36	18	28	422

Class All Freq: 1.000

mph	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
Calm-0.95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.95-3.5	5	15	13	5	9	9	5	15	12	9	3	6	4	8	8	10	136
3.5-7.5	51	56	76	50	48	54	51	41	36	37	34	39	52	31	35	38	729
7.5-12.5	58	68	88	58	68	95	118	81	123	147	132	126	124	90	60	82	1518
12.5-18.5	74	65	52	55	67	42	99	84	153	247	221	232	204	141	91	65	1892
18.5-24	44	34	12	31	18	27	58	45	56	148	156	91	79	107	70	33	1009
>24	46	21	22	8	23	17	29	19	11	34	49	40	65	106	63	47	600
TOTAL	278	259	263	207	233	244	360	285	391	622	595	534	528	483	327	275	5884