

APPENDIX B:

**RECONSTRUCTED LIGHT EXTINCTION SUMMARIES FOR
THE 20 PERCENT BEST AND 20 PERCENT WORST
VISIBILITY DAYS FOR EACH SITE AND YEAR**

Appendix B: Reconstructed Light Extinction Summaries For The 20 Percent Best And 20 Percent Worst Visibility Days For Each Site And Year

Table B-1 summarizes the 20 percent best and 20 percent worst visibility days for each site and year with at least 33 reconstructed light extinction values. The minimum of 33 values eliminates some of the startup years and 1996 from the CASTNET sites. The summary values are in Mm^{-1} and do **not** include 10 Mm^{-1} for Rayleigh scattering. The mean of the best days and the mean of the worst days are the usual metrics for assessing the visibility. The minimum, 20th percentile, 80th percentile, and maximum are shown to indicate the range of values within the two categories.

Table B-1. Light Extinction Values for the Best and Worst 20 Percent Visibility Days for Each Site and Year

Site	Year	No. of Values	No. of Best Days	Minimum	Best 20% Mean	20th Percentile	Median	80th Percentile	Worst 20% Mean	Maximum
Acadia National Park	1988	59	12	7.5	14.8	19.0	34.3	61.5	98.6	143.4
	1989	87	18	8.0	17.8	22.5	38.5	60.2	97.2	150.5
	1990	83	17	8.2	15.8	20.6	33.3	63.2	100.5	155.8
	1991	85	17	9.9	17.2	22.6	34.6	61.4	85.5	133.7
	1992	94	19	8.4	14.7	17.5	31.1	52.3	96.9	242.8
	1993	97	20	9.4	16.2	20.9	30.0	56.6	105.6	247.0
	1994	98	20	7.5	14.9	21.9	34.6	60.6	112.2	284.5
	1995	94	19	9.2	13.3	16.8	26.8	48.2	76.1	137.2
	1996	95	19	3.5	10.6	16.2	24.5	46.4	76.8	195.0
	1997	99	20	9.6	13.7	16.9	29.4	47.4	77.1	103.1
	1998	93	19	7.2	12.7	15.9	23.9	39.3	76.2	192.3
1999	92	19	4.7	10.8	14.8	23.9	43.5	76.7	251.1	
Arendtsville	1994	56	12	13.9	23.6	29.7	66.0	145.3	201.1	304.8
	1995	44	9	16.3	26.8	35.7	52.8	114.9	163.2	209.8
	1997	54	11	17.2	25.4	31.5	52.8	100.1	160.2	286.3
	1998	60	12	11.9	23.0	31.7	57.2	107.4	157.3	223.3
	1999	51	11	14.1	26.5	34.6	55.9	91.2	142.3	167.1
Boundary Waters Canoe Area	1991	33	7	6.2	9.2	12.0	23.2	43.9	57.8	84.1
	1992	85	17	4.7	10.6	16.4	24.3	47.0	65.1	118.1
	1993	98	20	2.0	9.5	13.4	20.7	39.6	62.3	121.3
	1994	93	19	2.0	9.5	14.1	21.4	41.0	71.6	128.7
	1995	77	16	2.4	6.9	11.3	16.3	27.5	50.6	97.0
	1996	60	12	4.8	8.7	10.8	18.6	33.4	52.1	101.9
	1997	89	18	4.7	9.2	12.9	18.8	38.3	61.7	99.9
	1998	60	12	5.3	8.9	11.4	20.5	38.0	60.8	114.7
	1999	45	9	4.2	7.0	11.0	24.4	38.2	52.5	81.3

Table B-1. Light Extinction Values for the Best and Worst 20 Percent Visibility Days for Each Site and Year (continued)

Site	Year	No. of Values	No. of Best Days	Minimum	Best 20% Mean	20th Percentile	Median	80th Percentile	Worst 20% Mean	Maximum
Brigantine National Wildlife Refuge	1992	41	9	15.6	29.3	37.8	67.5	103.2	179.0	279.9
	1993	90	18	15.8	37.0	47.6	65.0	95.9	143.5	248.1
	1994	102	21	21.9	33.5	42.3	68.8	114.0	151.2	253.0
	1995	96	20	17.4	27.8	35.1	56.6	86.1	124.5	266.7
	1996	78	16	23.7	31.7	38.0	59.4	86.9	116.6	187.4
	1997	97	20	14.1	30.2	38.1	53.7	80.9	132.1	255.4
	1998	68	14	19.8	24.2	29.0	41.5	59.4	80.4	191.5
	1999	83	17	12.6	23.5	31.2	48.2	85.3	117.7	223.0
Bondville	1994	65	13	19.0	35.9	50.7	90.3	143.4	223.4	319.4
	1995	41	9	23.3	41.3	59.0	99.6	147.0	213.7	308.1
	1997	54	11	17.8	28.5	46.9	75.8	128.5	167.4	266.4
	1998	58	12	26.1	35.8	44.0	87.2	142.0	210.4	310.5
	1999	59	12	10.7	23.1	31.5	67.6	112.8	185.7	405.9
Connecticut Hill	1994	56	12	12.4	22.0	28.5	61.1	93.9	147.2	283.8
	1995	45	9	9.3	15.8	21.0	45.9	97.5	135.1	172.7
	1997	56	12	12.5	20.1	26.3	50.3	90.0	145.1	222.8
	1998	55	11	8.0	16.6	24.0	49.5	104.4	174.8	261.4
	1999	59	12	8.1	16.1	22.3	42.7	101.5	149.2	286.6
Dolly Sods Wilderness Area	1992	33	7	11.0	26.0	39.1	62.7	129.0	188.0	304.1
	1993	89	18	10.2	33.6	42.6	69.6	128.1	180.5	276.0
	1994	100	20	8.0	20.4	33.1	58.0	117.3	186.6	374.6
	1995	91	19	7.8	23.9	34.9	52.1	102.2	152.4	269.8
	1996	93	19	14.5	27.5	36.3	51.2	77.8	129.0	231.3
	1997	92	19	12.4	27.8	35.3	49.2	89.1	140.3	283.0
	1998	73	15	11.5	22.2	29.3	44.9	71.8	155.8	256.3
	1999	83	17	4.3	25.4	35.0	45.9	73.1	100.3	163.3

Table B-1. Light Extinction Values for the Best and Worst 20 Percent Visibility Days for Each Site and Year (continued)

Site	Year	No. of Values	No. of Best Days	Minimum	Best 20% Mean	20th Percentile	Median	80th Percentile	Worst 20% Mean	Maximum
Great Smoky Mountains National Park	1988	67	14	16.2	32.5	42.6	58.2	85.3	124.5	190.5
	1989	66	14	14.4	34.3	46.5	75.0	116.1	173.4	287.6
	1990	84	17	17.0	31.2	41.1	64.2	153.7	197.5	259.3
	1991	71	15	11.1	23.8	32.2	51.4	91.4	150.2	247.7
	1992	97	20	7.7	24.5	33.3	67.0	120.2	159.4	261.9
	1993	94	19	7.5	27.1	37.3	69.2	119.6	164.2	266.1
	1994	92	19	13.7	26.0	34.1	53.4	111.9	176.7	325.0
	1995	100	20	6.4	24.5	31.4	55.9	108.3	158.6	286.3
	1996	96	20	14.4	31.0	39.2	55.3	109.1	164.6	252.9
	1997	95	19	17.0	28.4	34.2	55.9	113.5	163.4	304.0
	1998	79	16	6.6	25.4	36.6	53.9	141.5	191.7	237.1
1999	83	17	20.1	28.8	35.9	62.5	108.3	153.8	220.5	
Jefferson/James River Face Wildlife Area	1995	95	19	23.8	35.4	45.0	73.5	116.8	161.5	377.6
	1996	89	18	22.2	35.9	44.9	66.3	100.0	142.7	228.2
	1997	90	18	20.0	35.9	43.6	72.2	113.3	161.0	270.9
	1998	63	13	17.8	29.9	36.2	54.4	91.5	132.3	288.0
	1999	73	15	18.7	31.2	40.3	64.0	109.9	146.2	186.9
Livonia	1994	57	12	12.9	37.2	52.1	81.8	140.5	211.5	372.5
	1995	41	9	30.2	40.0	48.3	102.3	140.8	200.2	260.8
	1997	58	12	24.0	32.2	38.8	66.4	105.6	165.0	260.3
	1998	59	12	23.0	32.3	42.4	80.0	140.3	175.4	232.4
	1999	53	11	23.2	32.1	39.2	57.4	94.1	144.1	185.3
Lye Brook Wilderness Area	1993	82	17	3.3	10.3	14.6	23.5	58.5	98.9	175.5
	1994	59	12	7.5	13.0	17.6	28.8	82.0	114.5	204.5
	1995	69	14	4.3	11.7	16.3	26.5	53.8	103.7	171.9
	1996	83	17	2.7	9.9	14.6	27.2	51.3	68.4	84.2
	1997	75	15	5.1	10.1	14.7	27.8	46.7	86.0	217.0
	1998	79	16	1.9	8.4	12.0	27.7	47.6	77.6	127.9
	1999	82	17	1.2	9.2	13.6	25.6	51.8	81.9	121.7

Table B-1. Light Extinction Values for the Best and Worst 20 Percent Visibility Days for Each Site and Year (continued)

Site	Year	No. of Values	No. of Best Days	Minimum	Best 20% Mean	20th Percentile	Median	80th Percentile	Worst 20% Mean	Maximum
Mammoth Cave National Park	1992	87	18	21.1	34.8	43.4	73.8	113.4	162.9	251.4
	1993	92	19	19.1	40.6	55.9	79.4	117.1	171.5	316.3
	1994	73	15	18.4	37.5	54.5	73.1	137.3	183.6	255.5
	1995	94	19	18.8	31.3	41.0	57.5	94.5	150.2	283.0
	1996	94	19	19.4	30.6	37.7	63.8	104.3	157.1	237.4
	1997	84	17	23.9	33.7	39.4	63.1	108.3	144.8	191.8
	1998	61	13	15.2	27.3	34.1	55.8	97.7	137.8	222.0
	1999	87	18	18.6	29.9	39.6	60.8	115.0	134.4	170.6
M.K. Goddard	1994	62	13	20.6	32.7	45.4	77.1	124.9	182.3	245.3
	1995	43	9	11.0	33.6	43.5	77.3	128.3	189.9	257.5
	1997	58	12	14.6	29.9	40.5	67.8	114.0	169.9	237.6
	1998	61	13	15.4	31.9	46.4	67.3	145.4	238.3	317.4
	1999	56	12	12.5	28.4	38.4	70.0	121.0	172.6	259.4
Quaker City	1994	50	10	19.7	37.6	45.5	67.8	145.9	228.2	336.5
	1995	47	10	14.8	36.1	47.1	78.4	132.6	190.2	277.0
	1997	57	12	11.8	25.7	33.9	62.5	104.5	164.1	267.9
	1998	57	12	14.4	32.5	41.8	64.6	116.7	171.5	247.7
	1999	58	12	18.7	26.0	30.4	53.2	106.4	163.3	347.8
Shenandoah National Park	1988	55	11	12.8	29.6	41.6	65.5	117.4	153.8	262.4
	1989	80	16	6.5	22.6	34.4	53.2	100.1	149.5	228.3
	1990	91	19	13.2	27.0	34.9	58.5	126.4	162.8	227.6
	1991	93	19	12.2	24.6	33.6	58.4	138.5	187.7	301.2
	1992	97	20	5.2	20.9	31.6	59.2	103.0	164.1	326.6
	1993	95	19	1.9	25.8	37.2	65.2	115.7	170.1	254.7
	1994	100	20	7.7	20.2	25.7	51.2	109.6	181.2	378.7
	1995	89	18	6.3	23.4	33.3	51.6	92.2	147.5	298.3
	1996	88	18	16.8	25.4	31.9	49.4	88.8	137.3	207.0
	1997	81	17	4.3	22.7	29.3	49.0	95.4	130.7	231.0
	1998	64	13	4.1	16.3	23.6	38.5	71.5	132.8	240.6
	1999	80	16	7.4	17.5	25.5	41.6	78.7	109.3	178.4

Table B-1. Light Extinction Values for the Best and Worst 20 Percent Visibility Days for Each Site and Year (continued)

Site	Year	No. of Values	No. of Best Days	Minimum	Best 20% Mean	20th Percentile	Median	80th Percentile	Worst 20% Mean	Maximum
Washington, D.C.	1989	67	14	39.2	59.3	73.5	92.5	130.9	160.0	198.2
	1990	63	13	41.3	56.2	70.7	100.4	127.0	141.7	157.4
	1991	88	18	35.4	60.5	75.9	119.2	170.1	228.9	294.0
	1992	82	17	32.5	47.8	57.9	99.7	160.1	208.6	324.5
	1993	95	19	45.0	59.4	73.4	109.6	171.2	220.7	385.1
	1994	92	19	28.1	54.7	69.9	101.4	153.9	196.3	253.3
	1995	96	20	26.4	39.8	49.6	76.1	127.0	158.4	257.1
	1996	86	18	12.6	41.6	52.3	76.8	120.7	160.1	222.6
	1997	86	18	32.0	40.7	52.8	76.9	118.6	155.7	229.5
	1998	59	12	26.3	36.4	41.9	58.0	77.1	93.8	118.8
1999	78	16	15.9	32.1	41.5	75.2	99.9	136.0	235.6	