

Alaska Department of Environmental Conservation



Amendments to: State Air Quality Control Plan

Volume III: Appendix III.K.7

Air Quality Modeling of Source Regions

Appendix to
Section III. K: Areawide Pollutant Control Program for
Regional Haze

Adopted

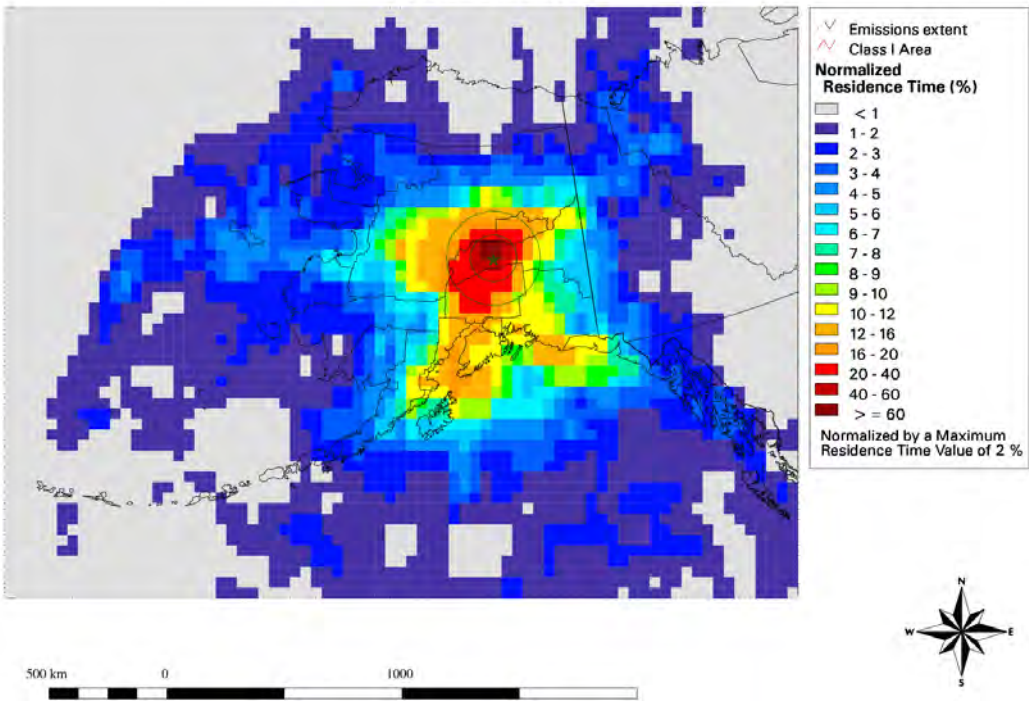
February 11, 2011

APPENDIX III.K.7

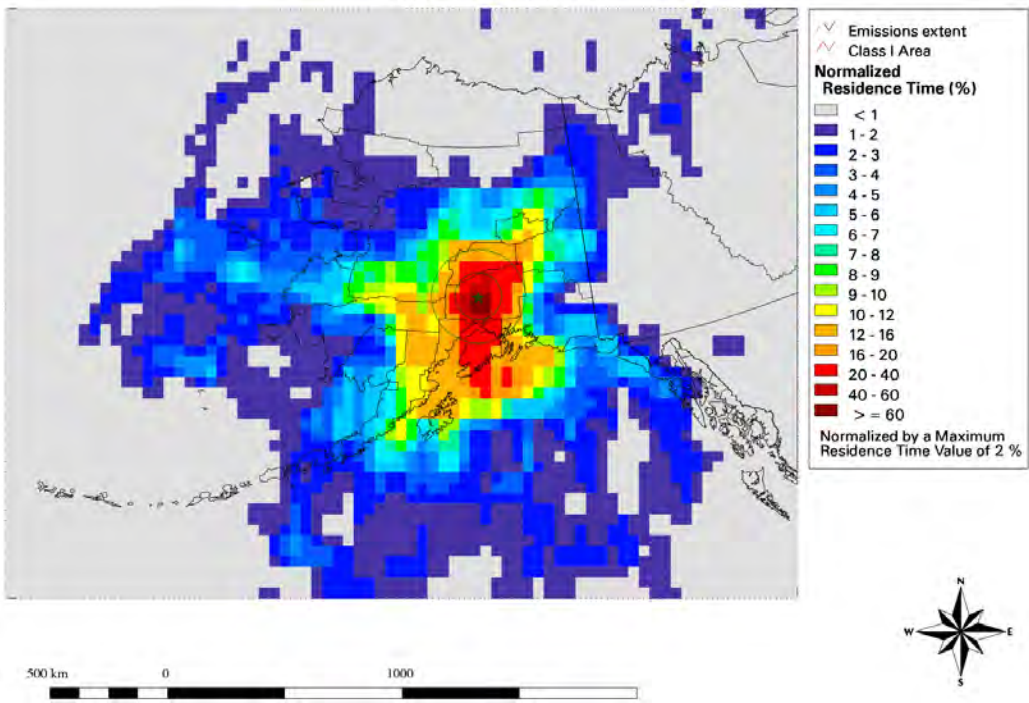
Air Quality Modeling of Source Regions

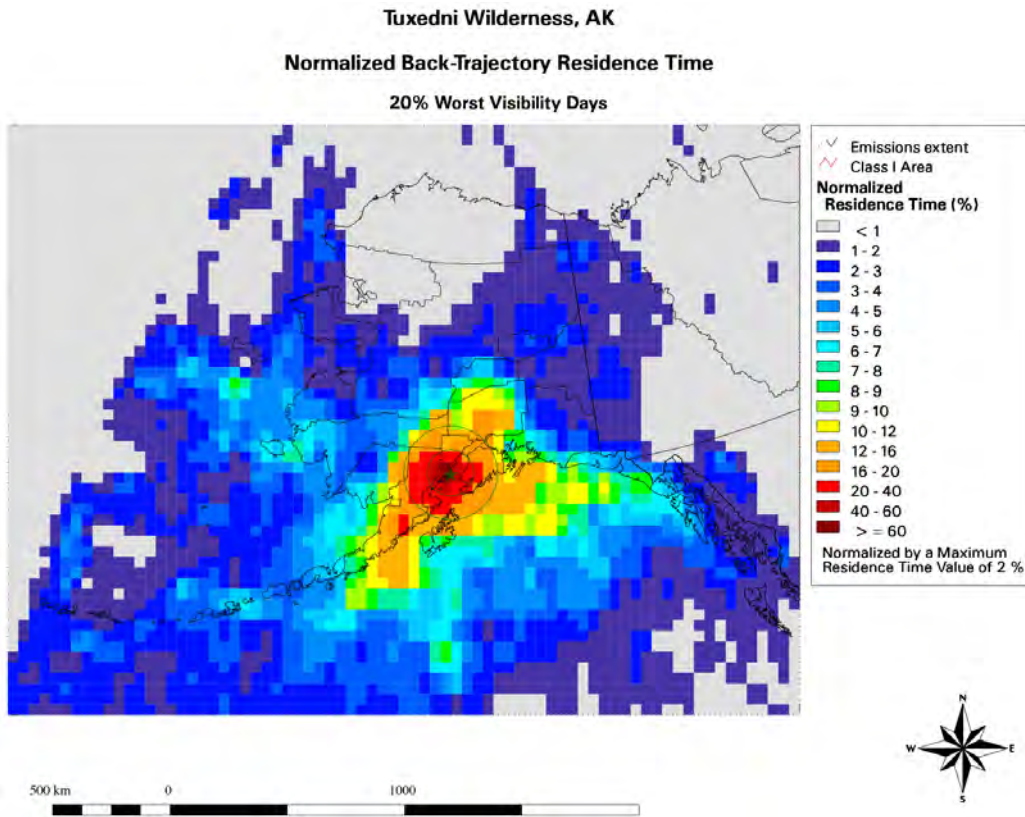
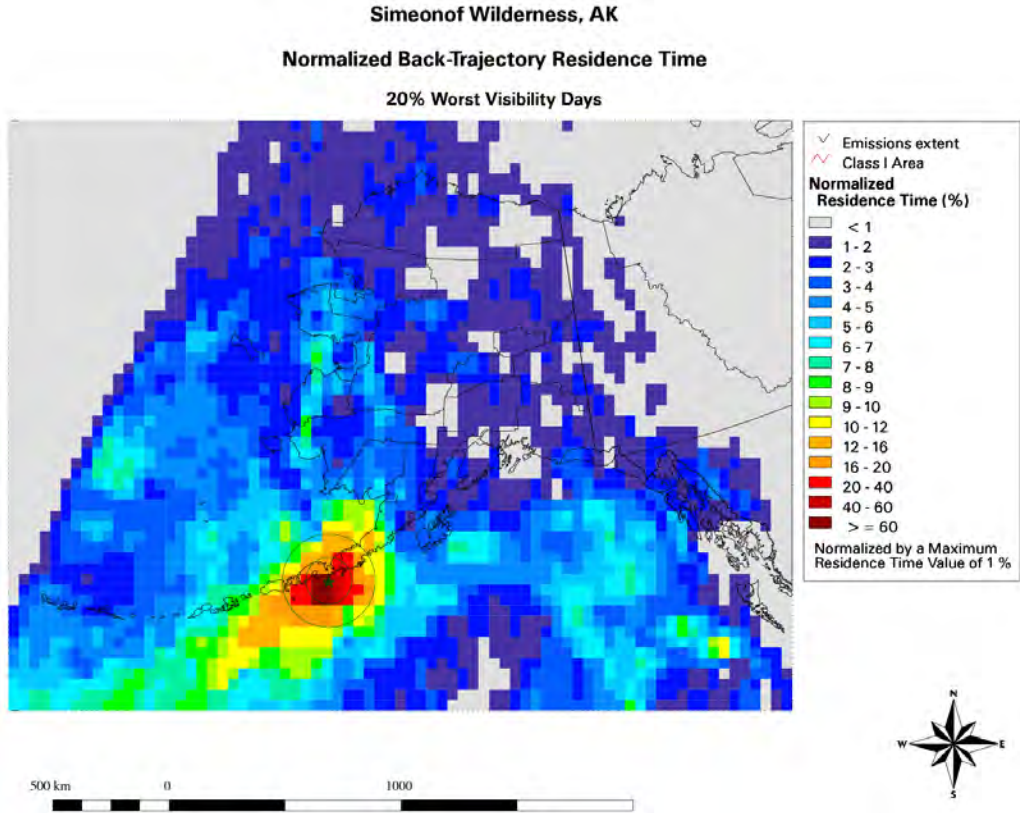
**Back-Trajectory Residence Time
Maps**

Denali National Park, AK
Normalized Back-Trajectory Residence Time
20% Worst Visibility Days



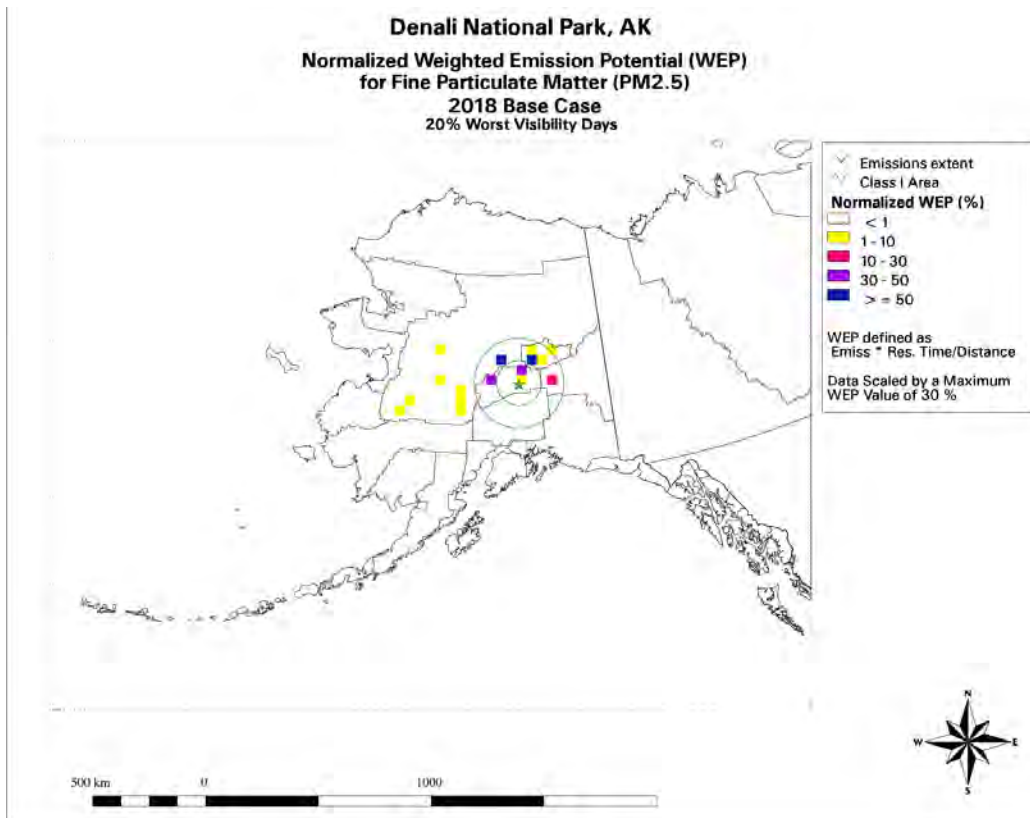
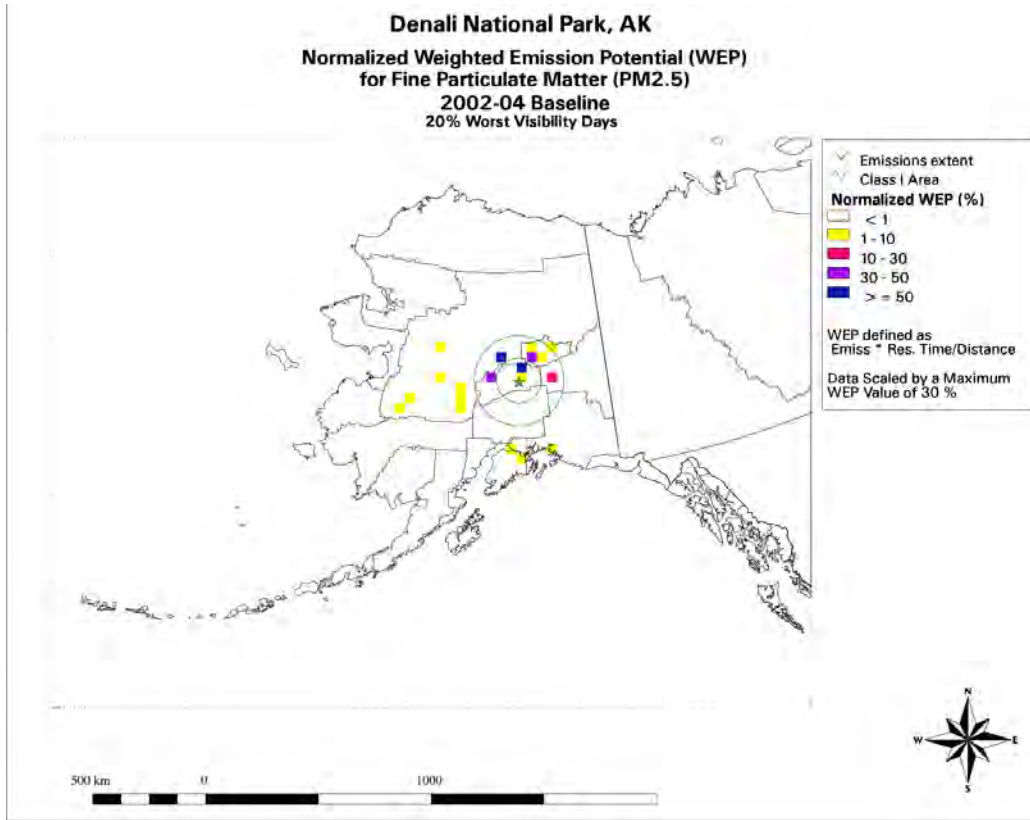
Trapper Creek Wilderness, AK
Normalized Back-Trajectory Residence Time
20% Worst Visibility Days

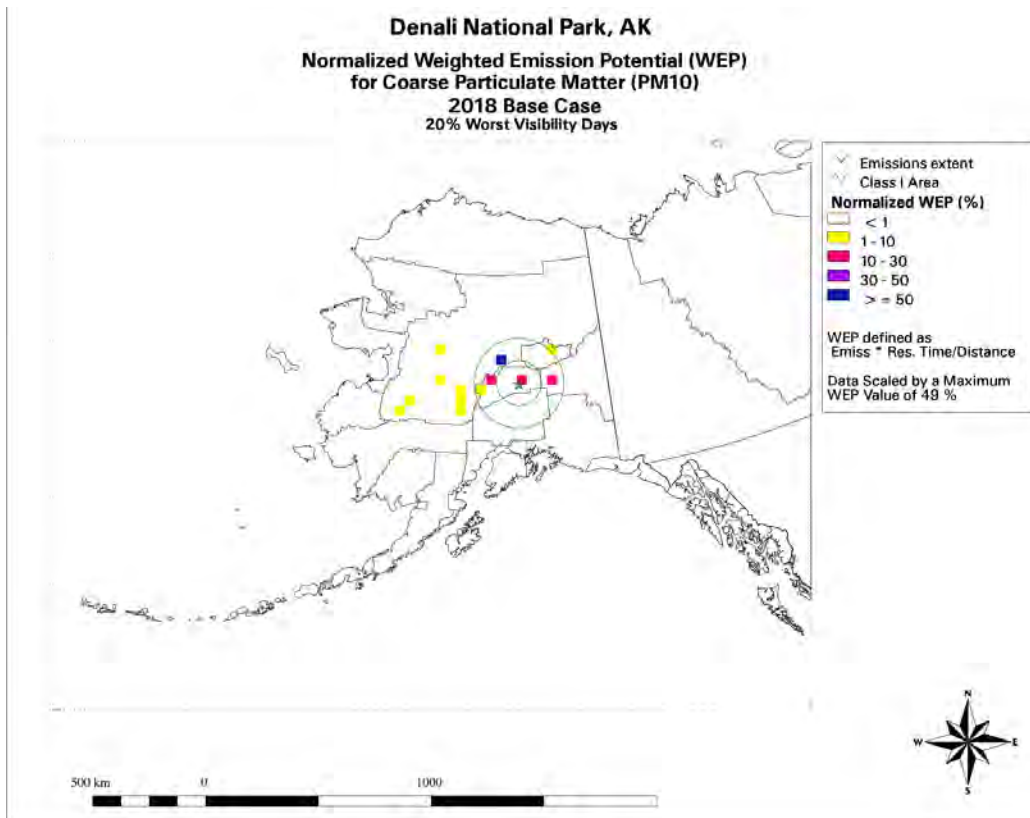
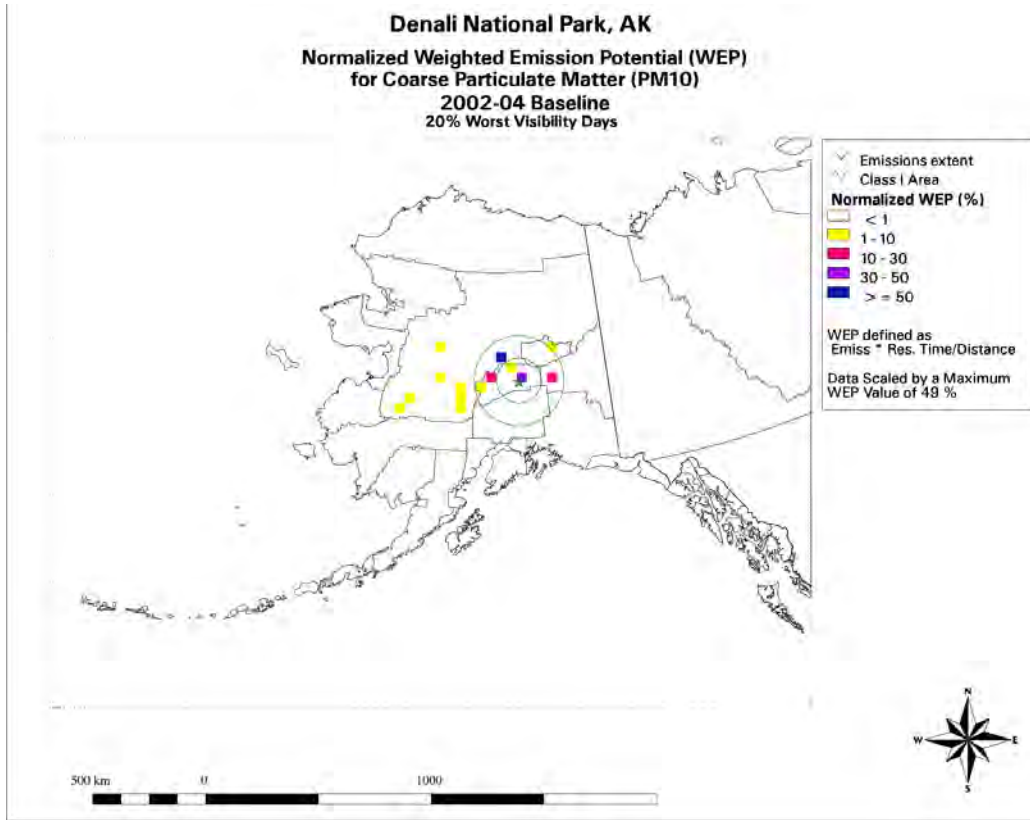


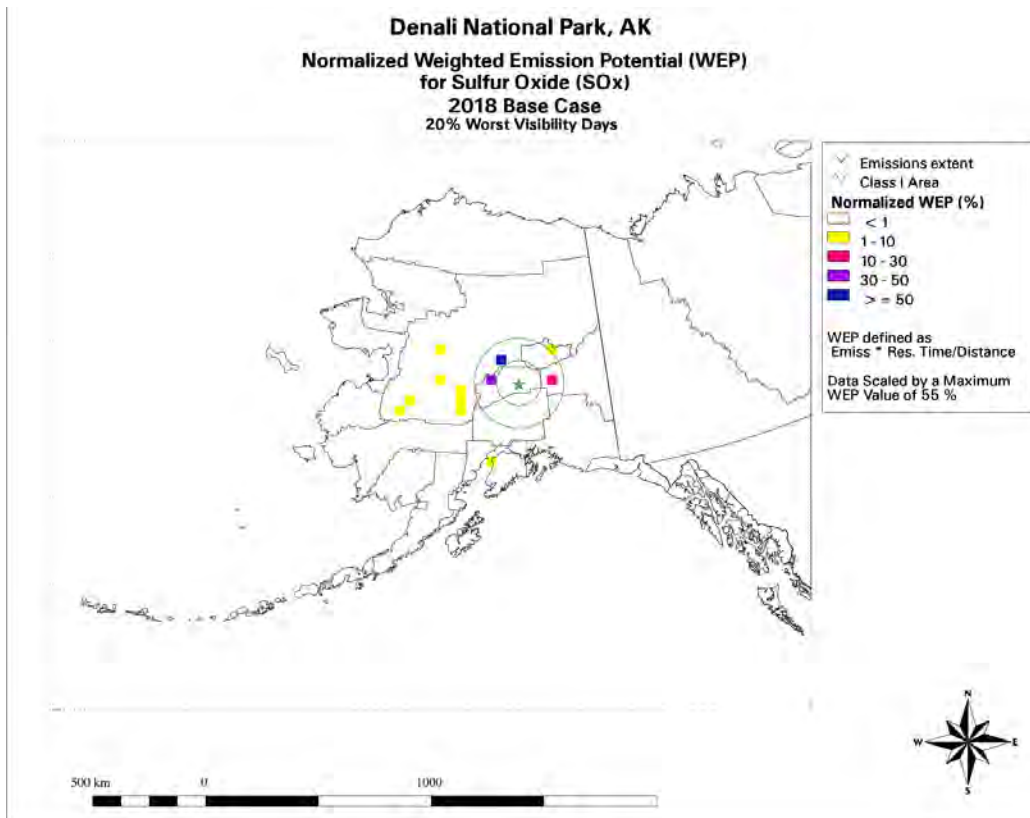
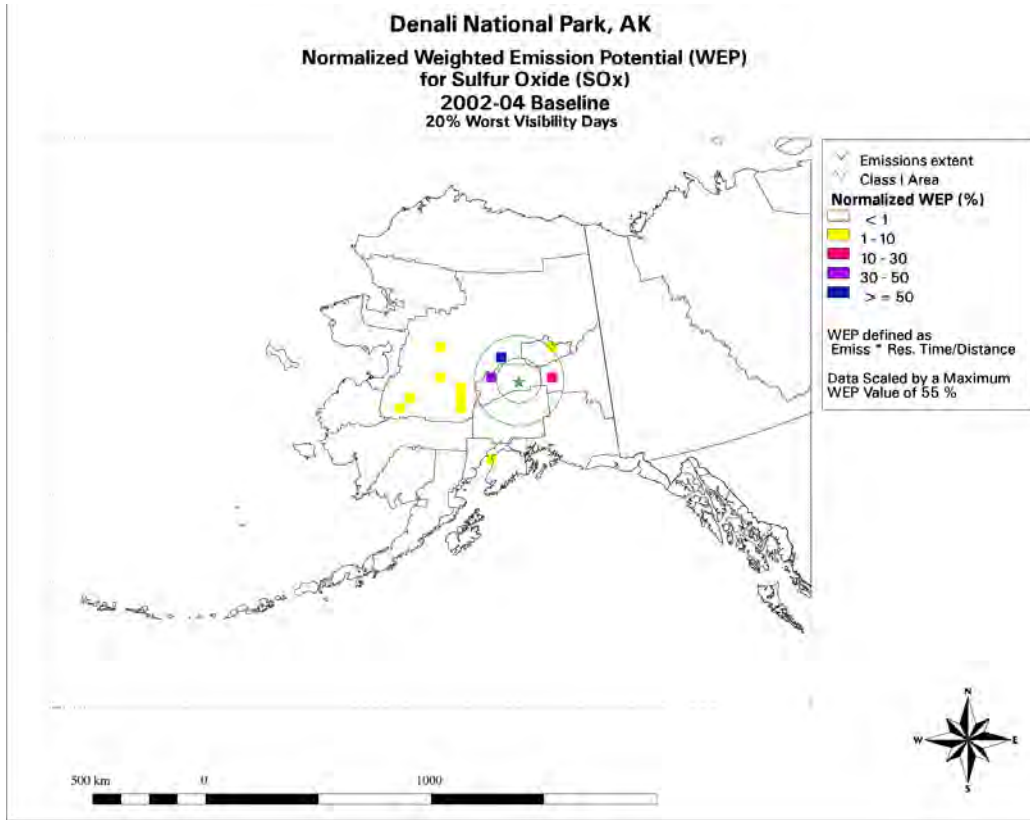


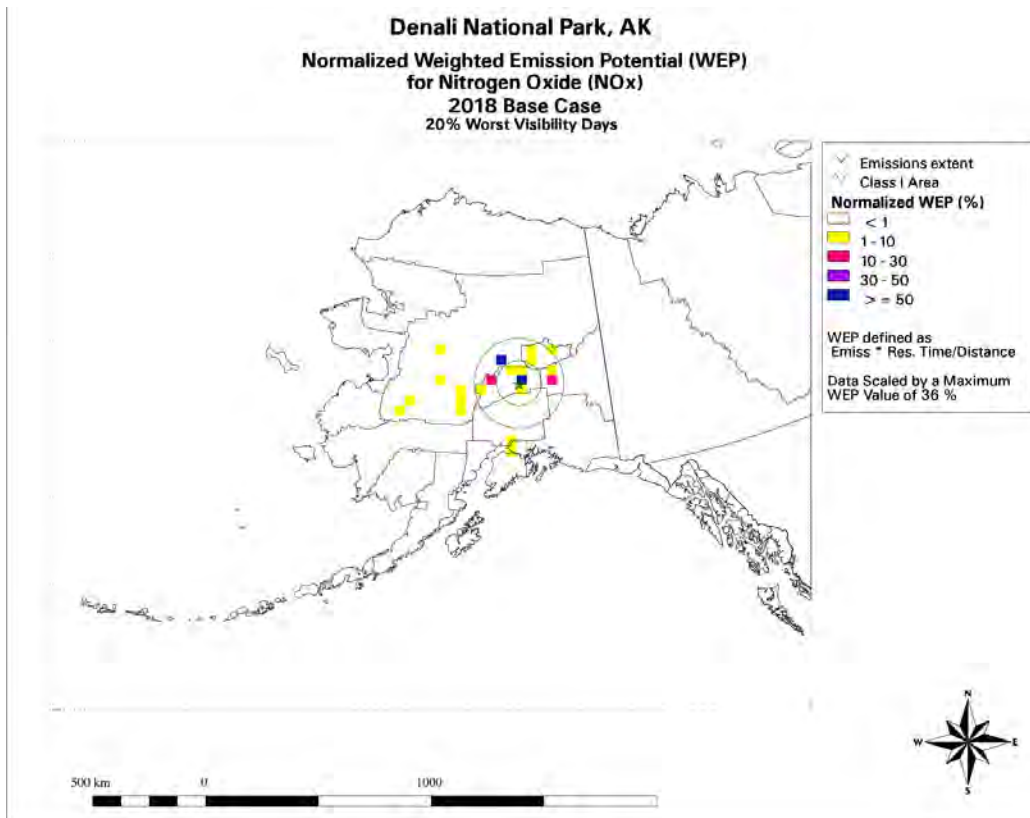
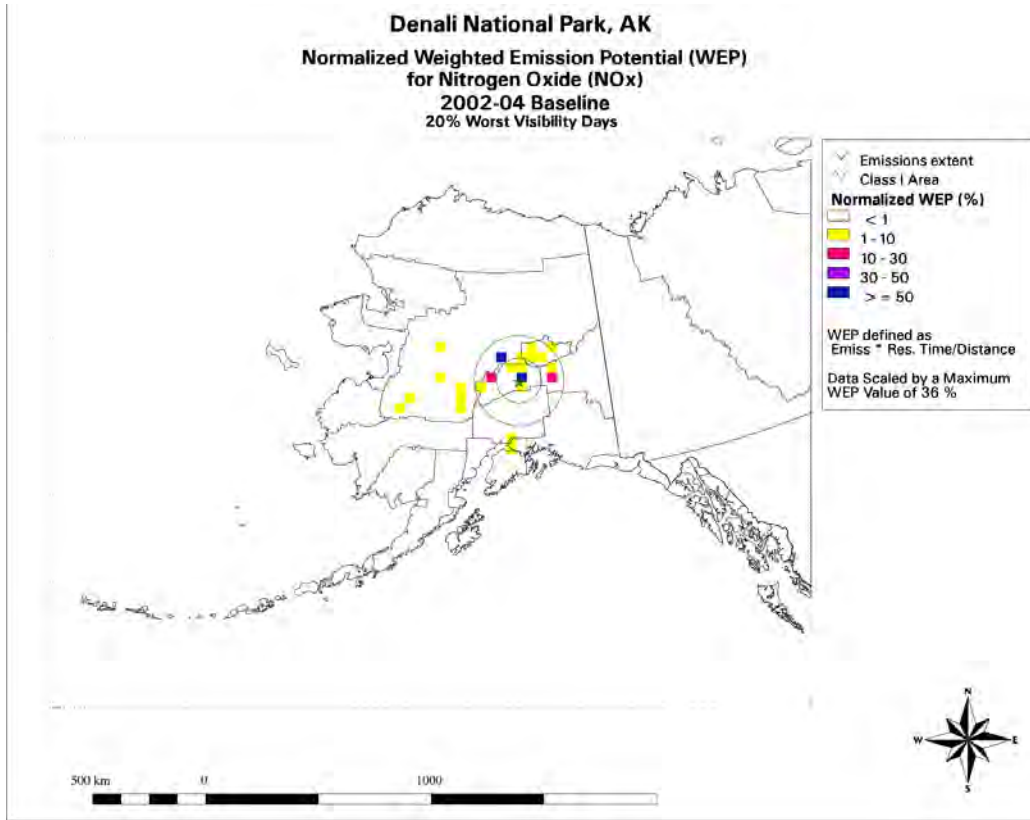
**Weighted Emissions Potential Analysis
Maps**

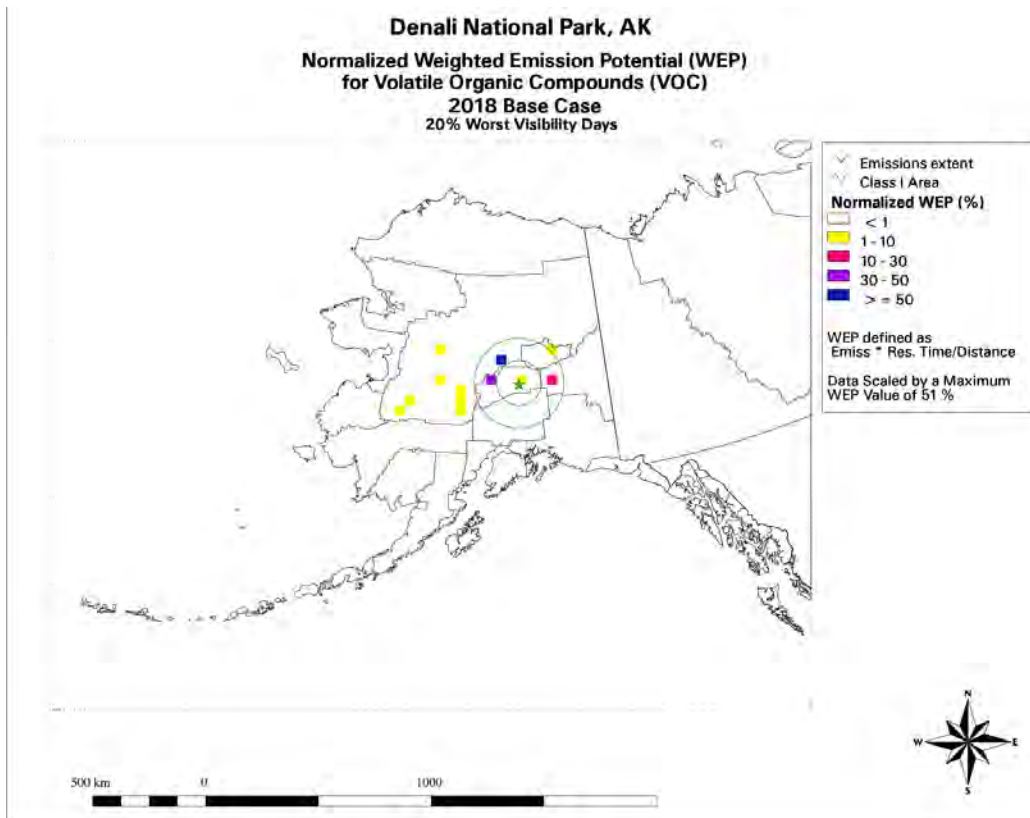
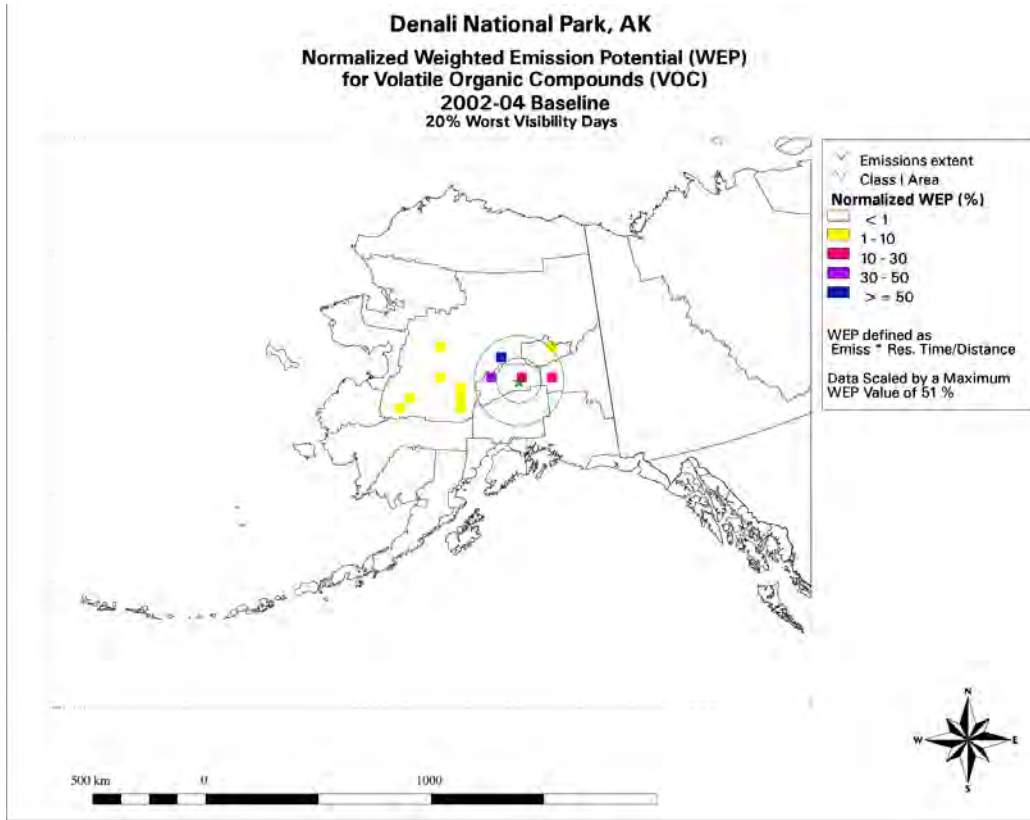
DENALI NATIONAL PARK

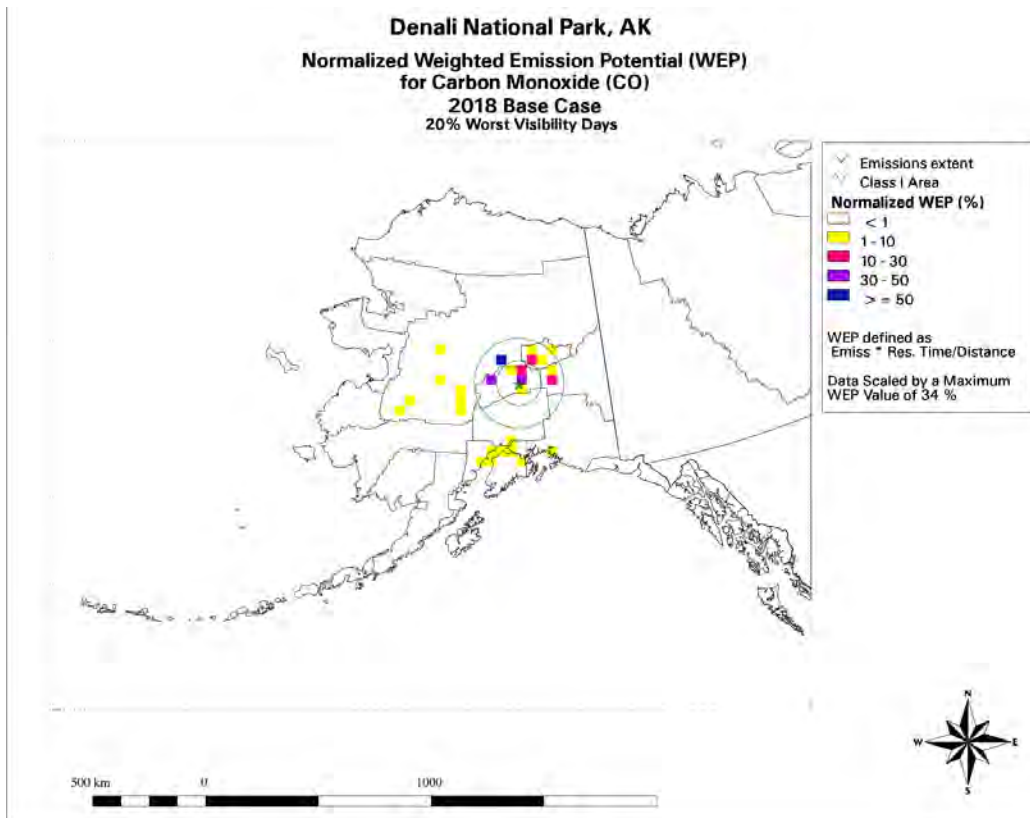
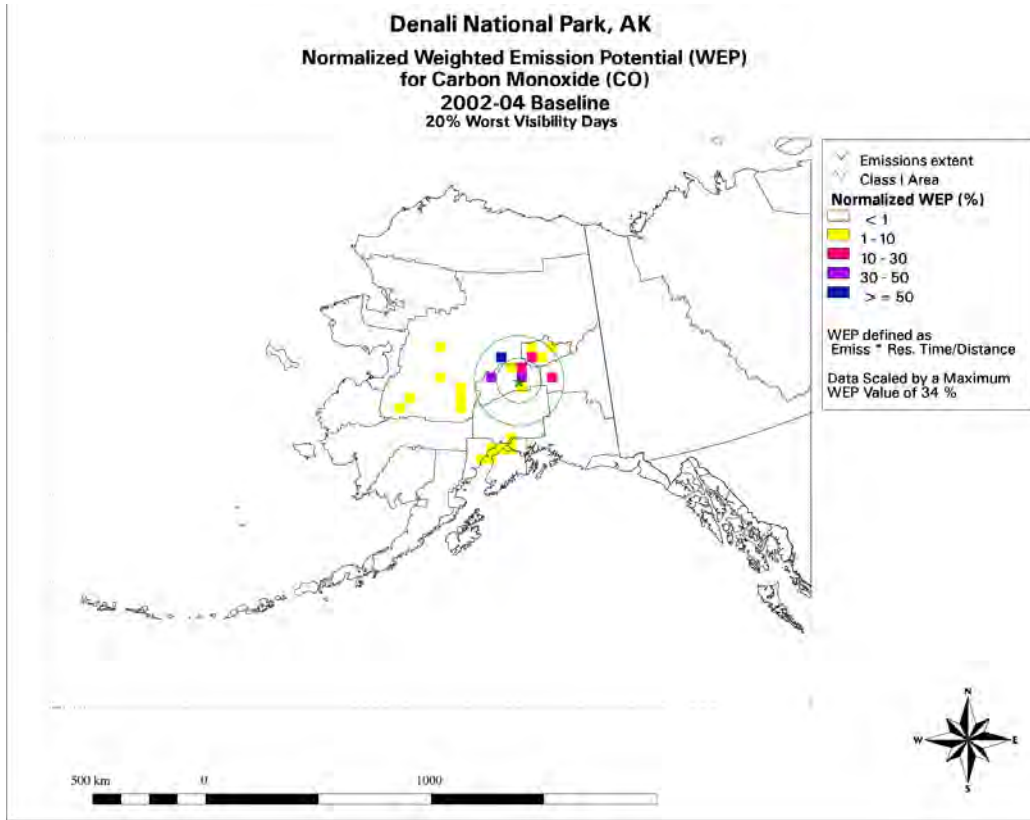




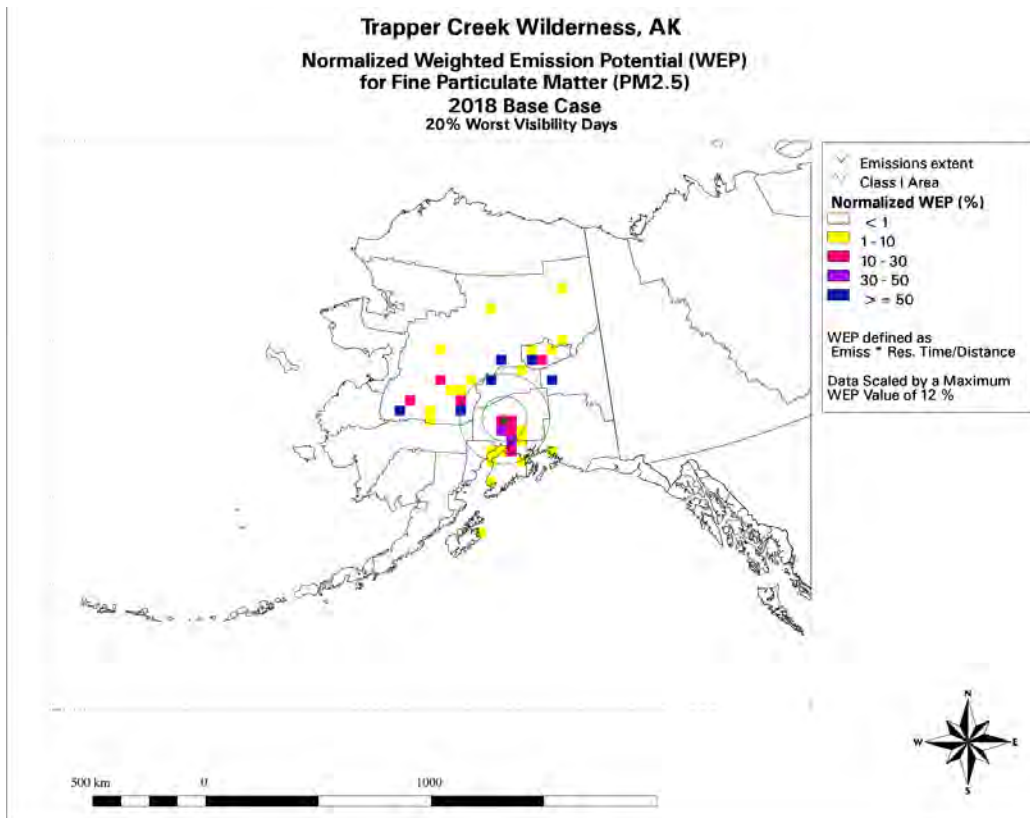
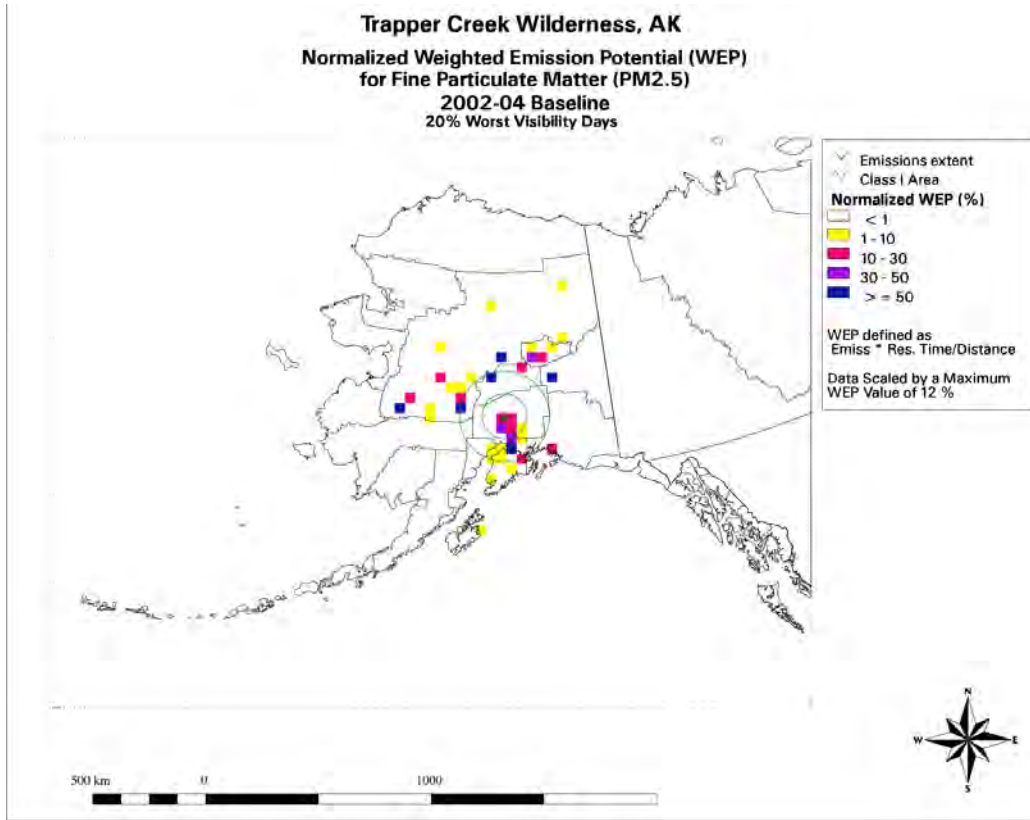


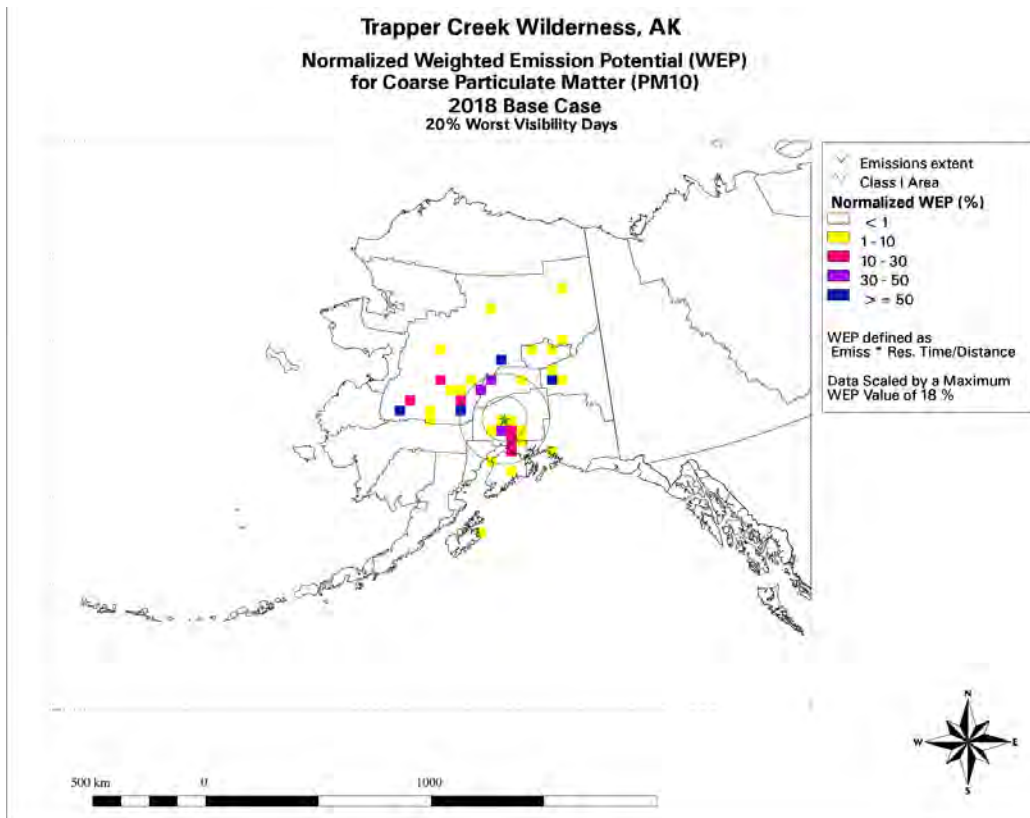
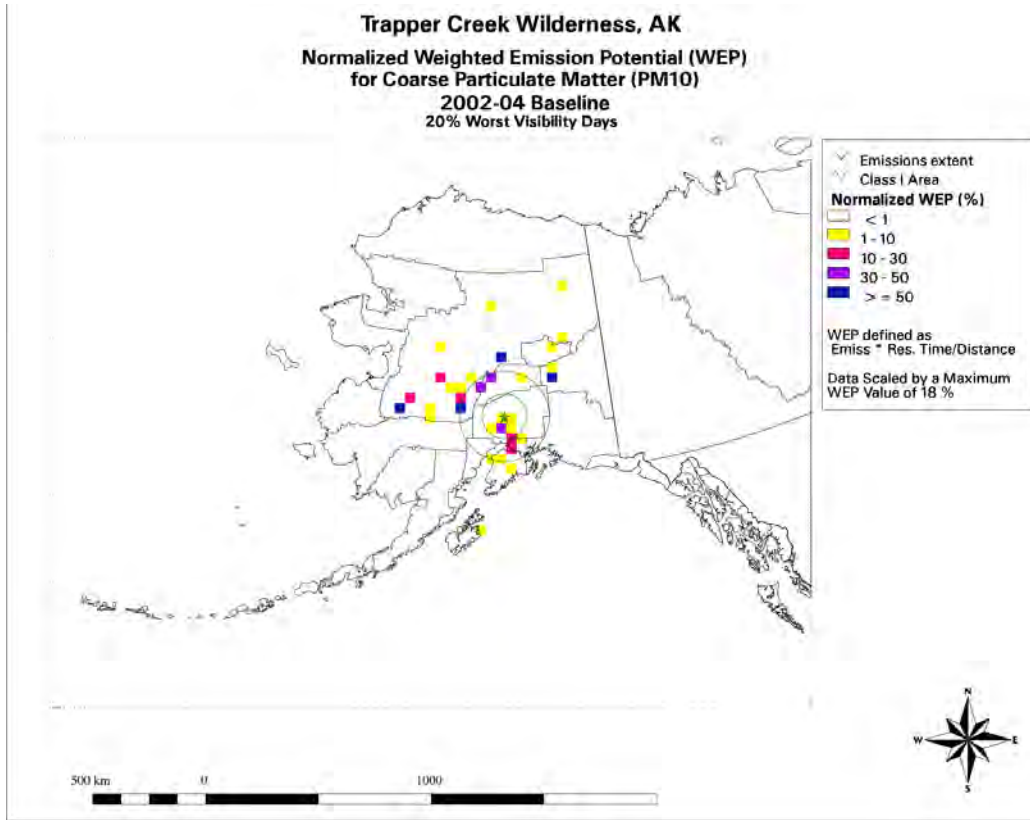


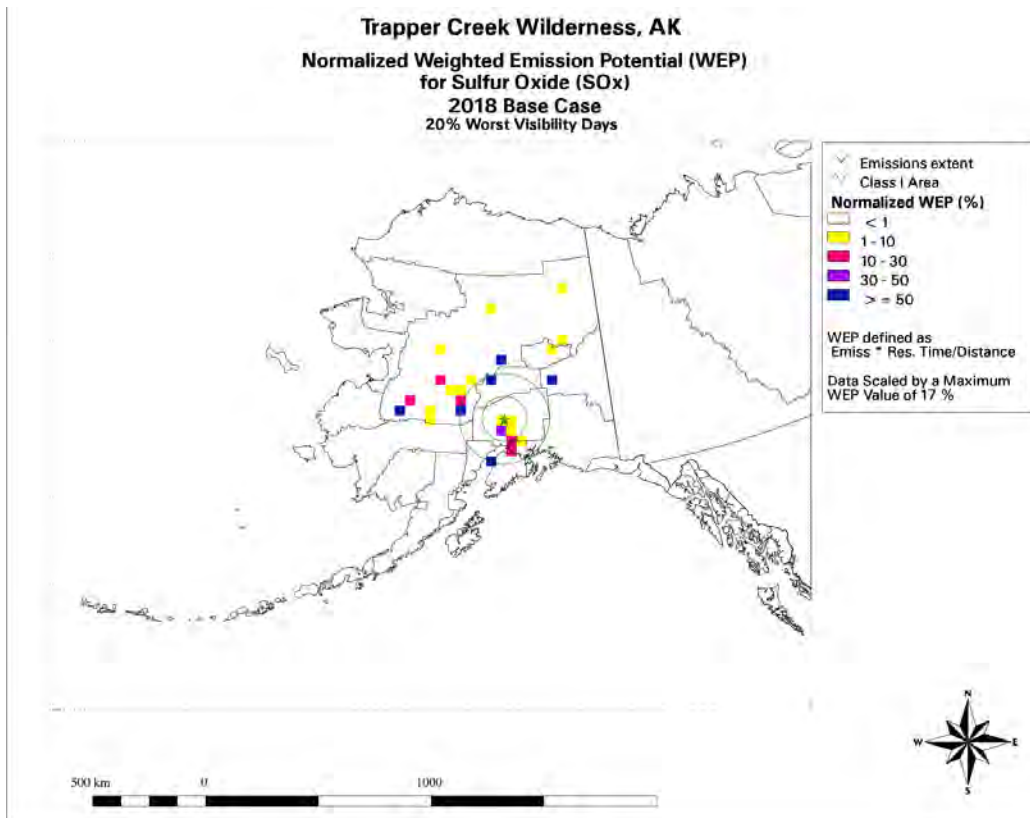
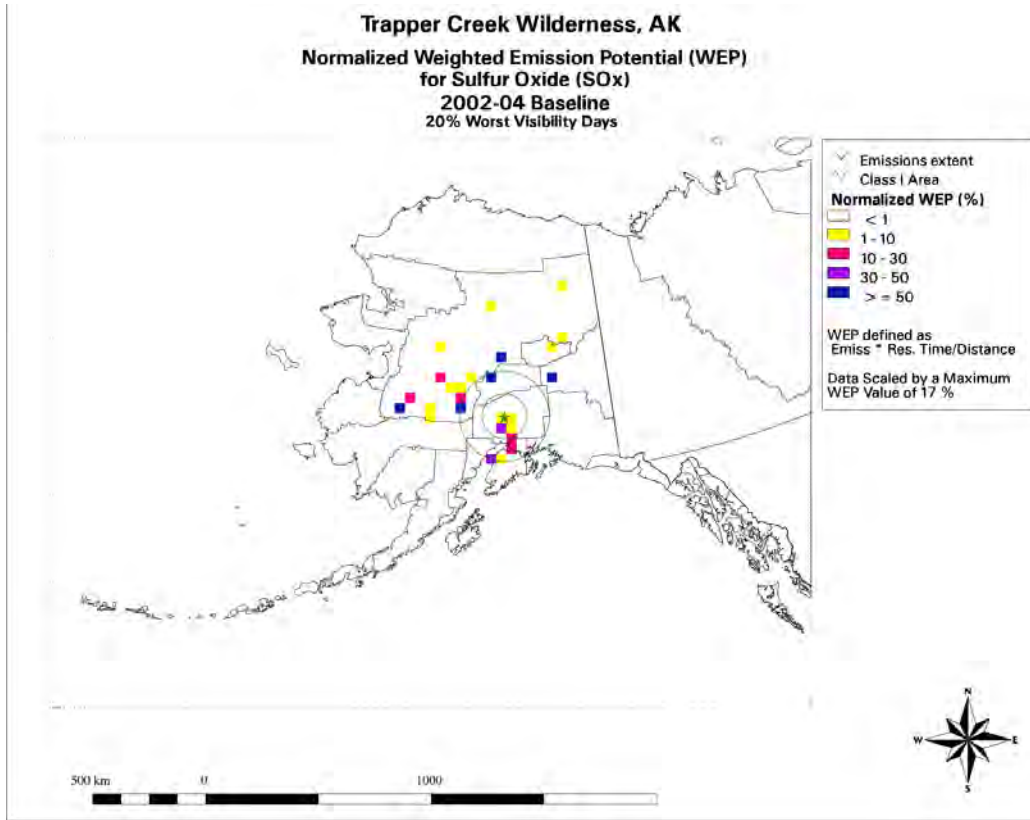


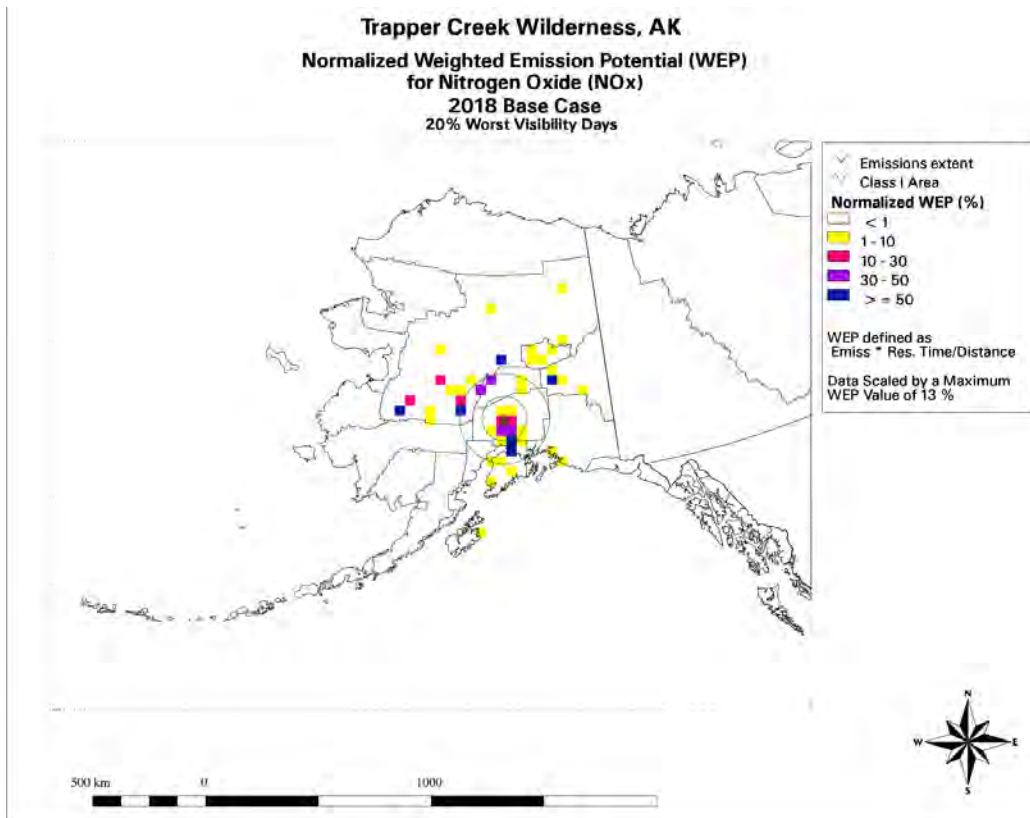
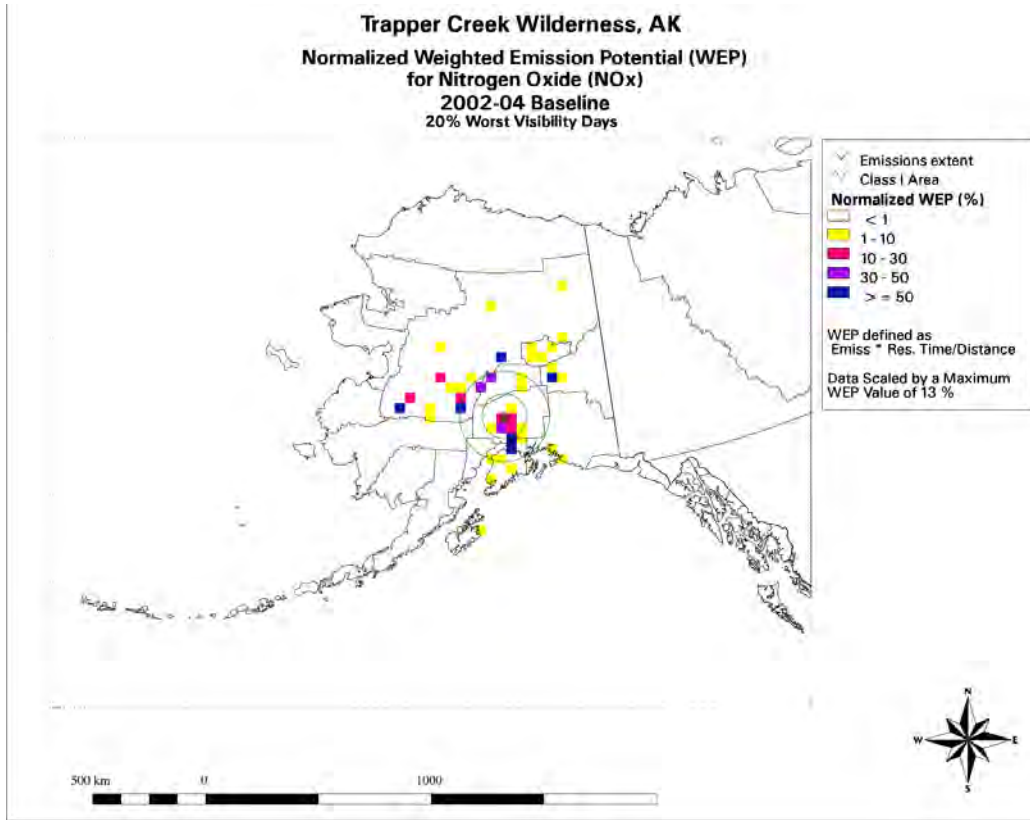


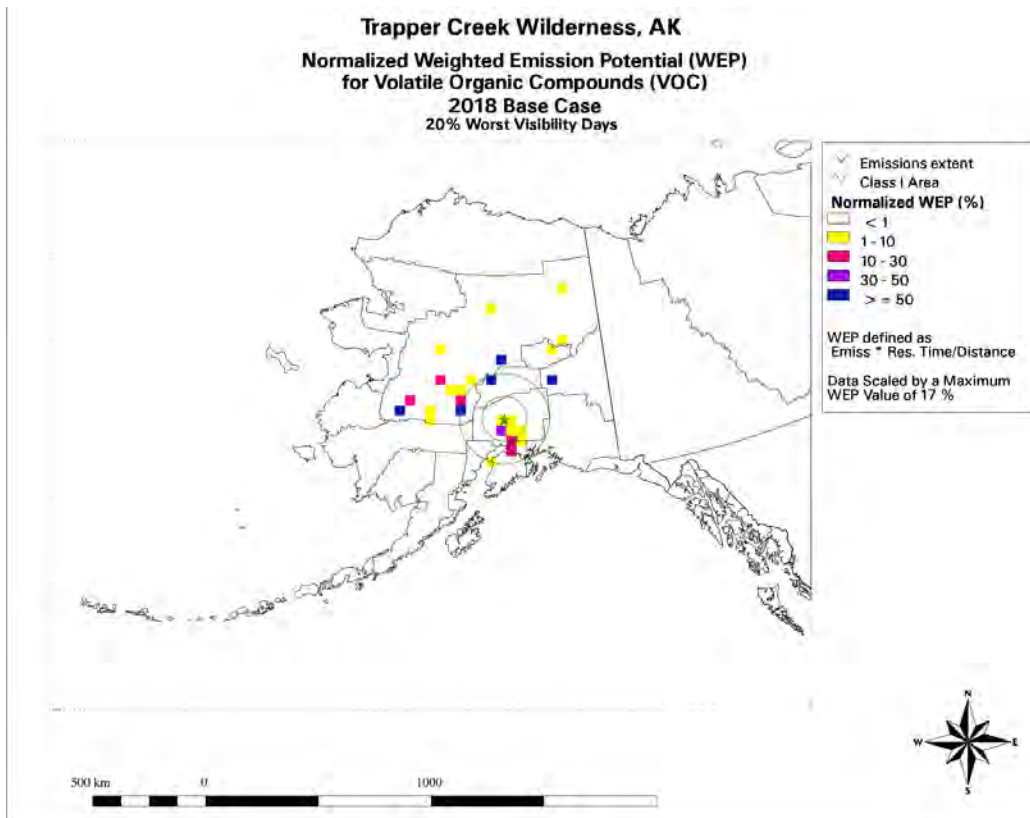
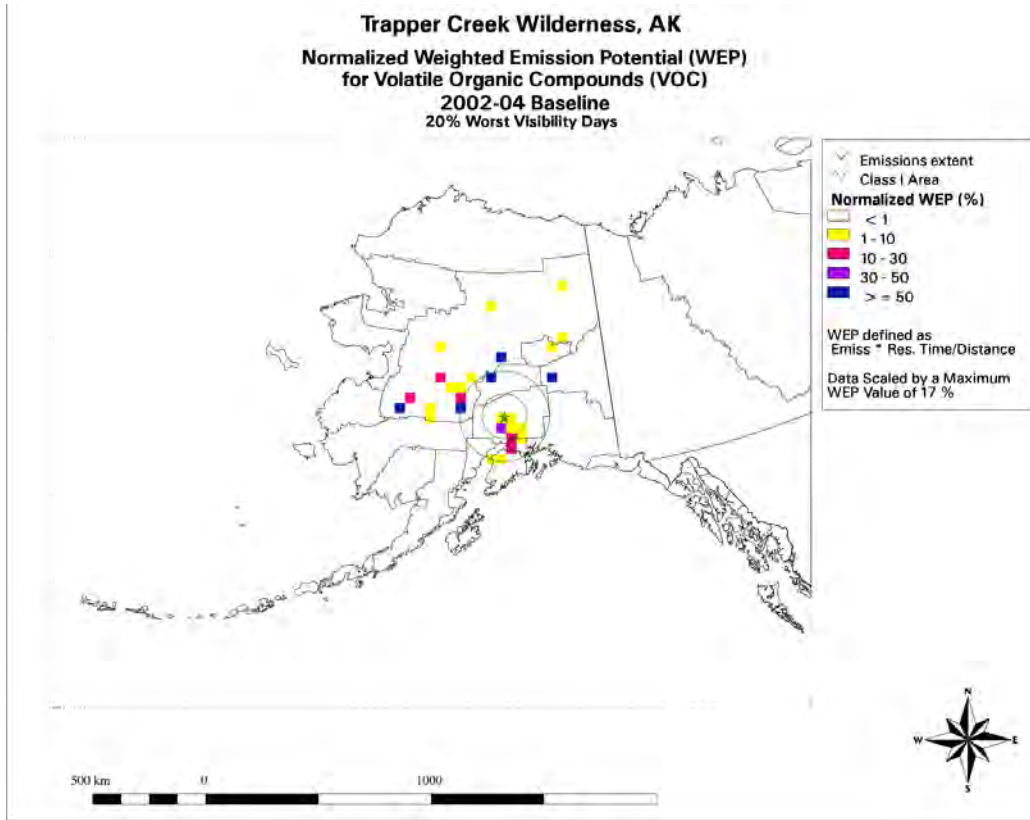
TRAPPER CREEK WILDERNESS

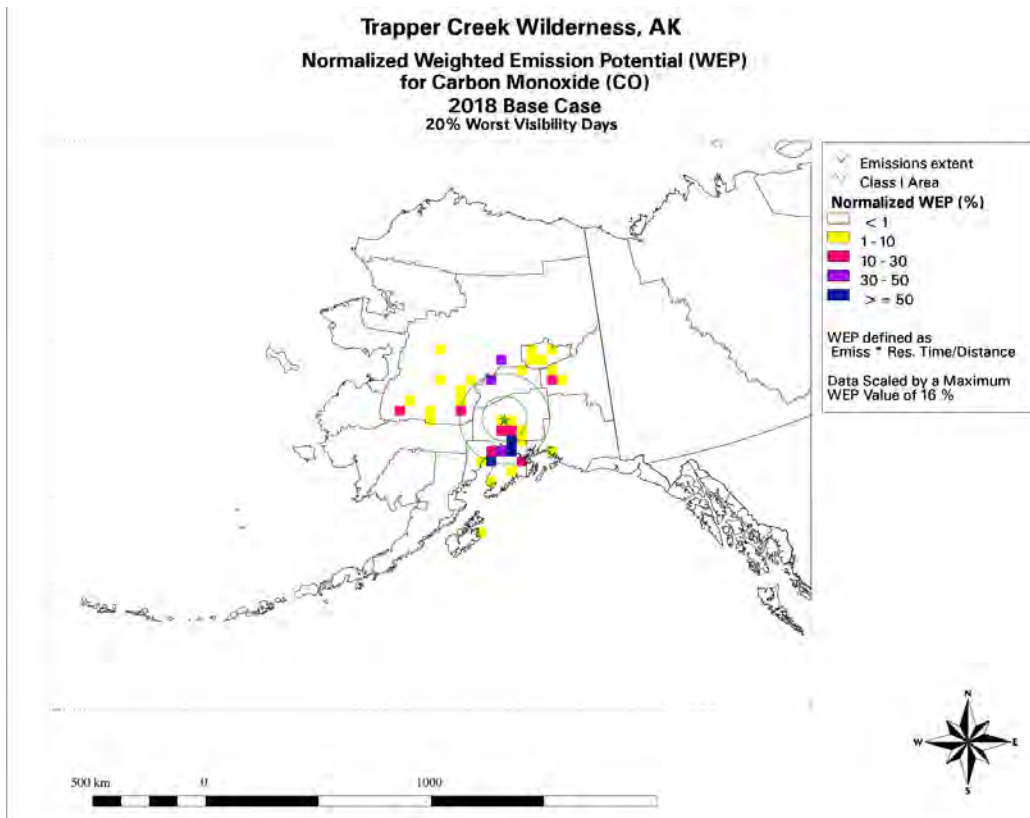
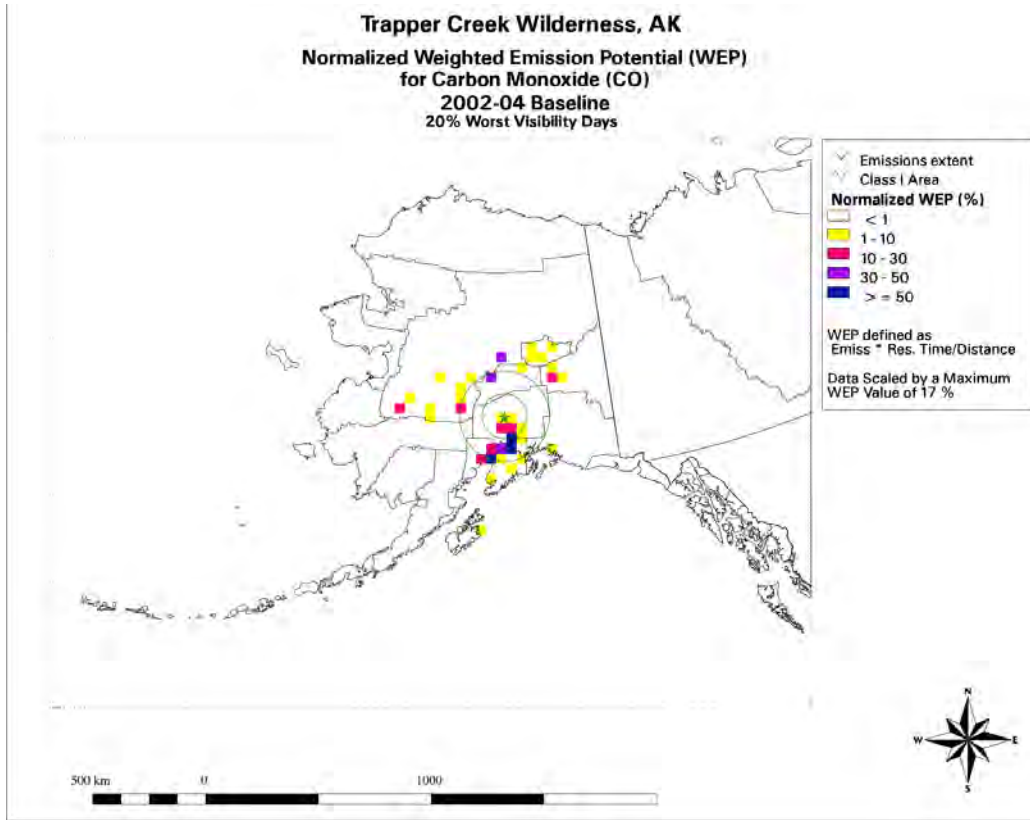




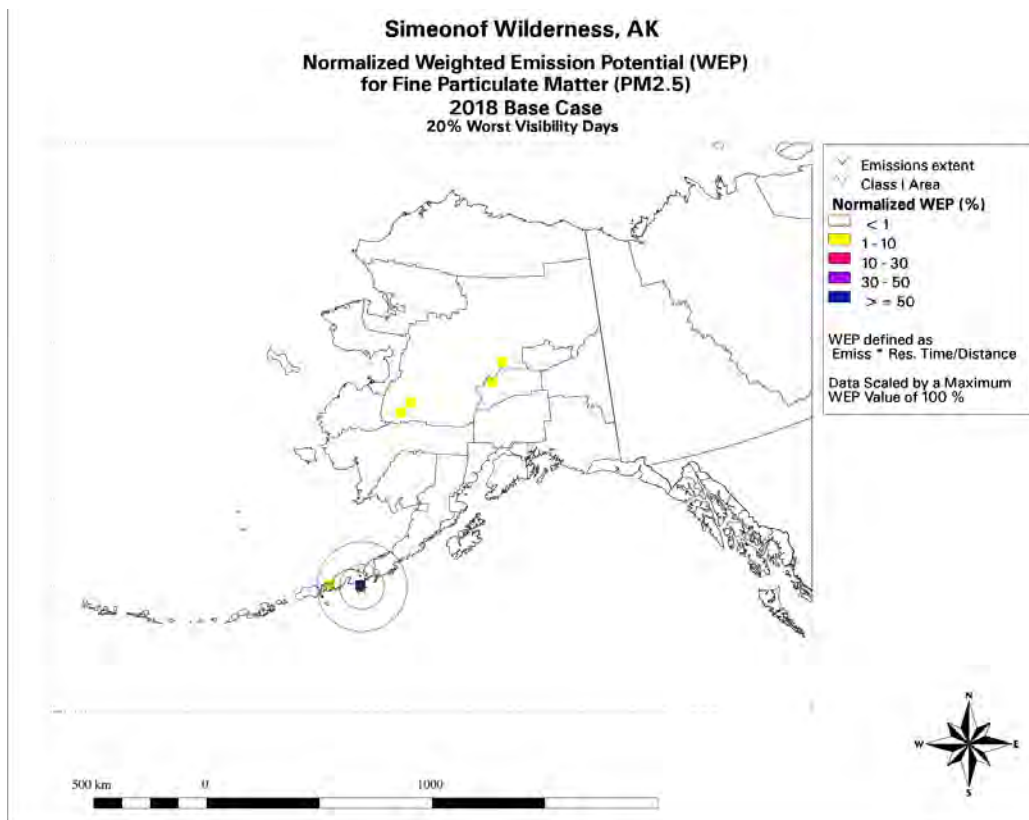
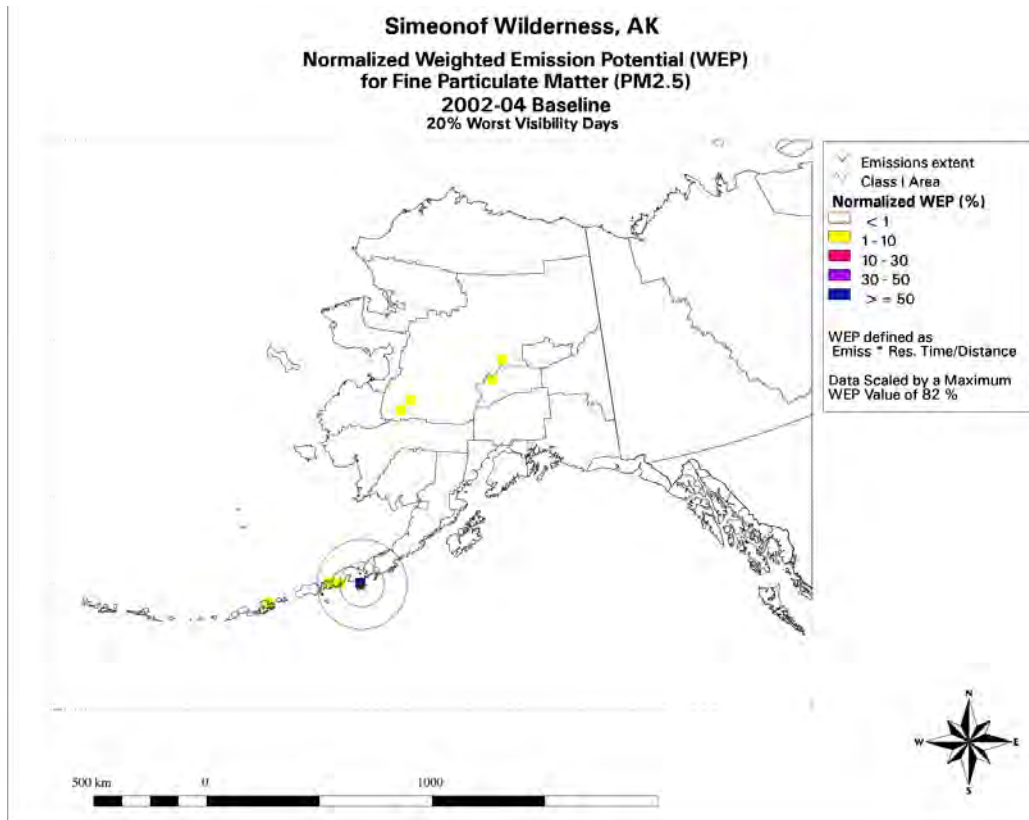


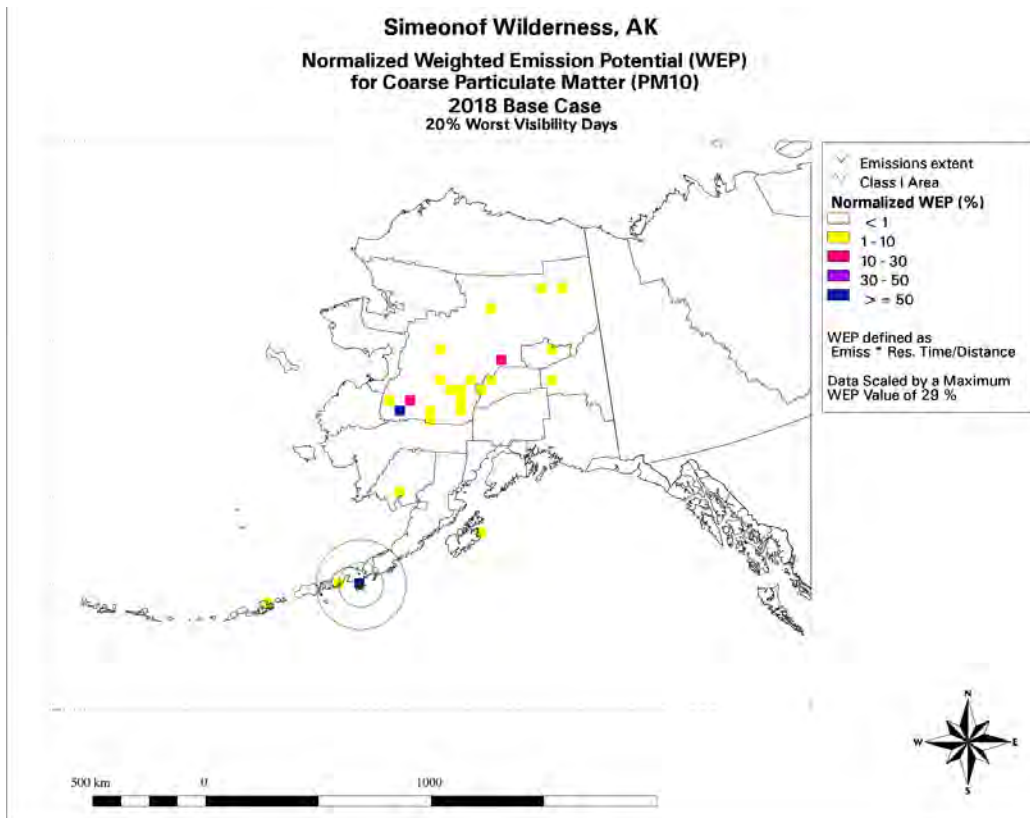
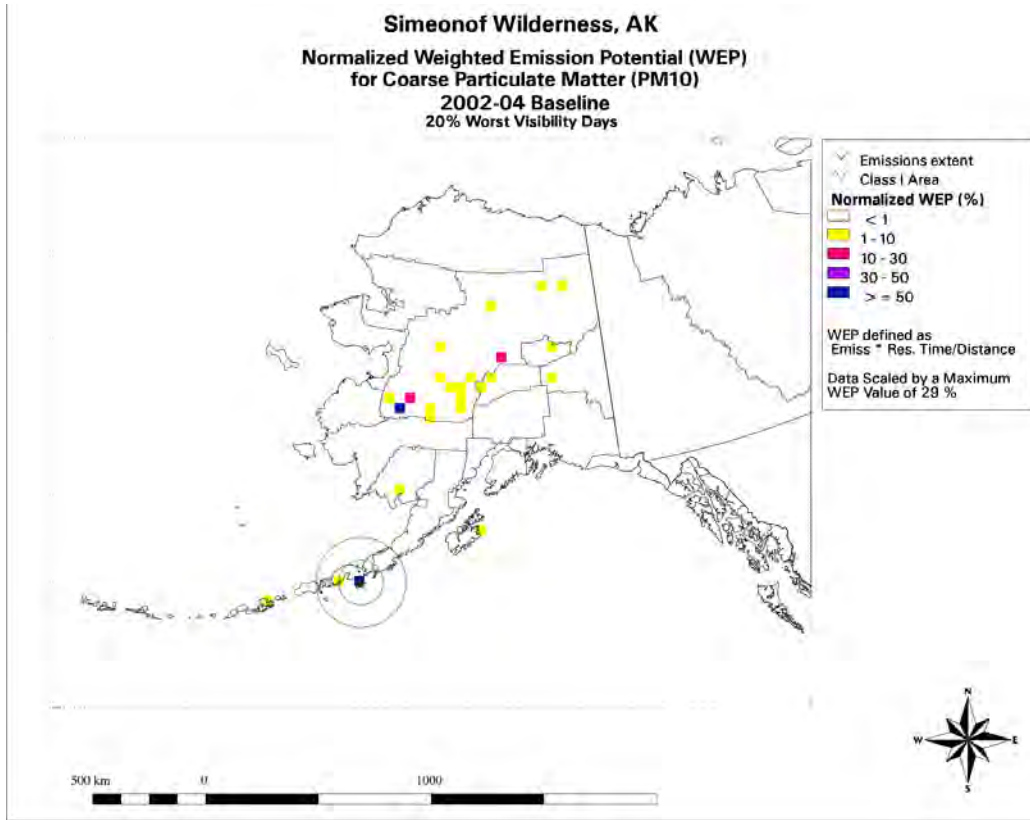


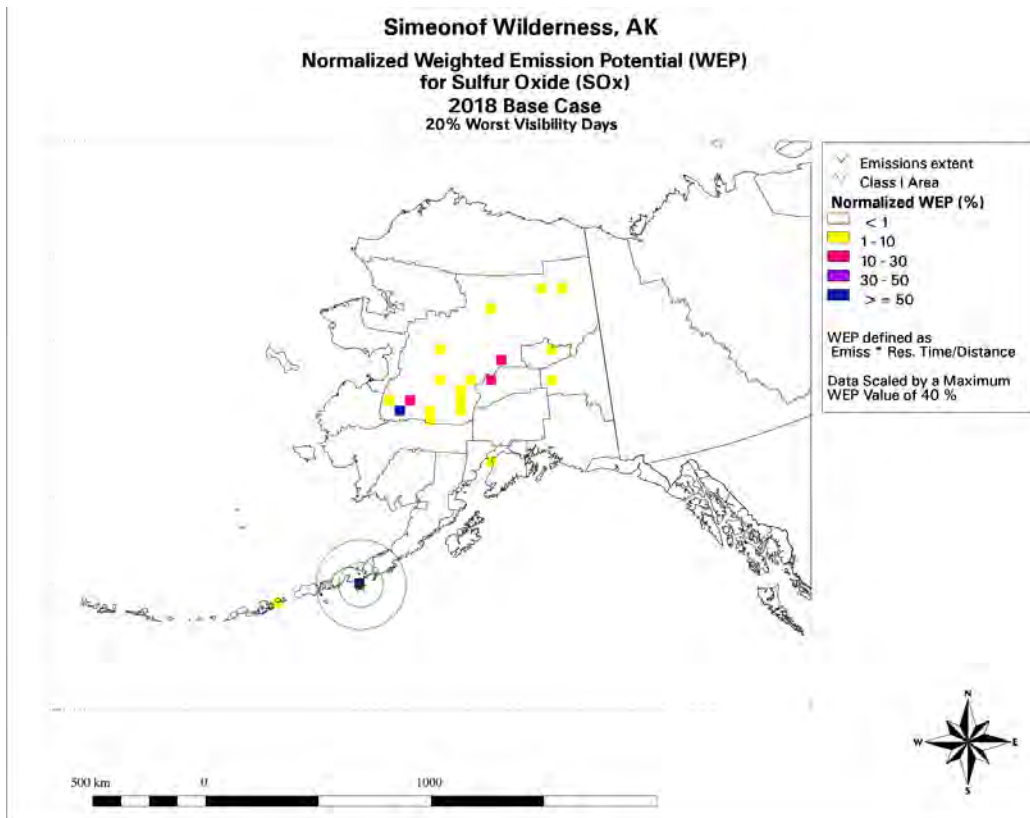
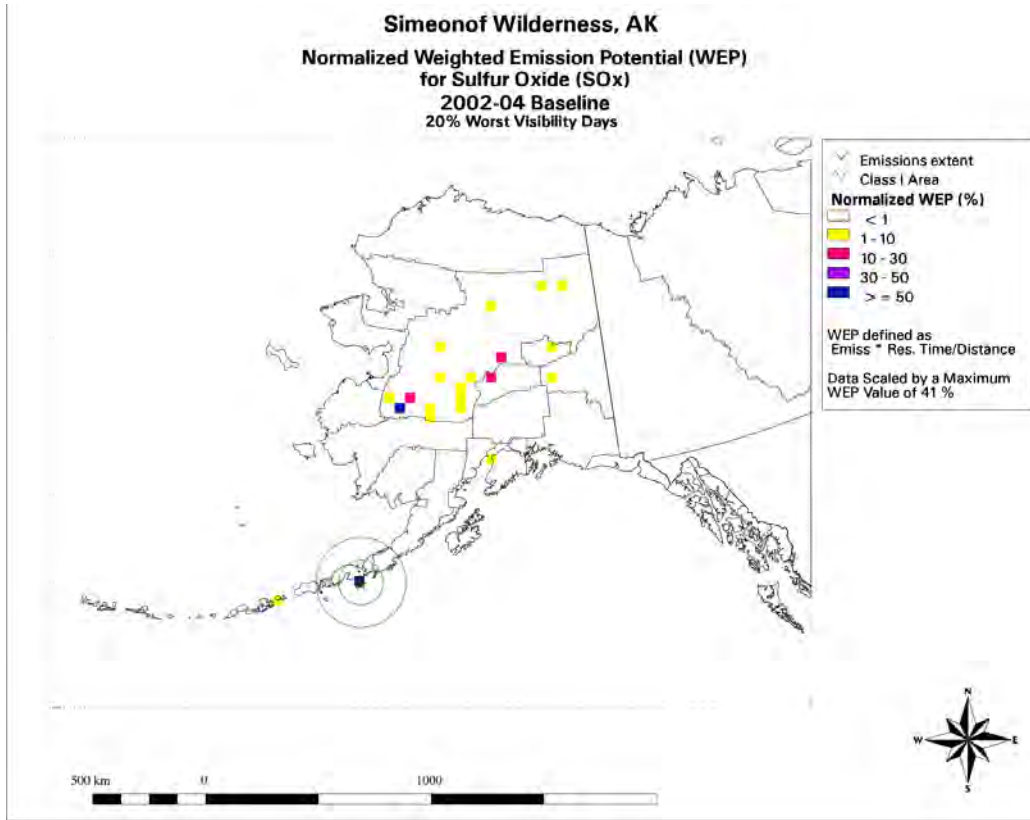


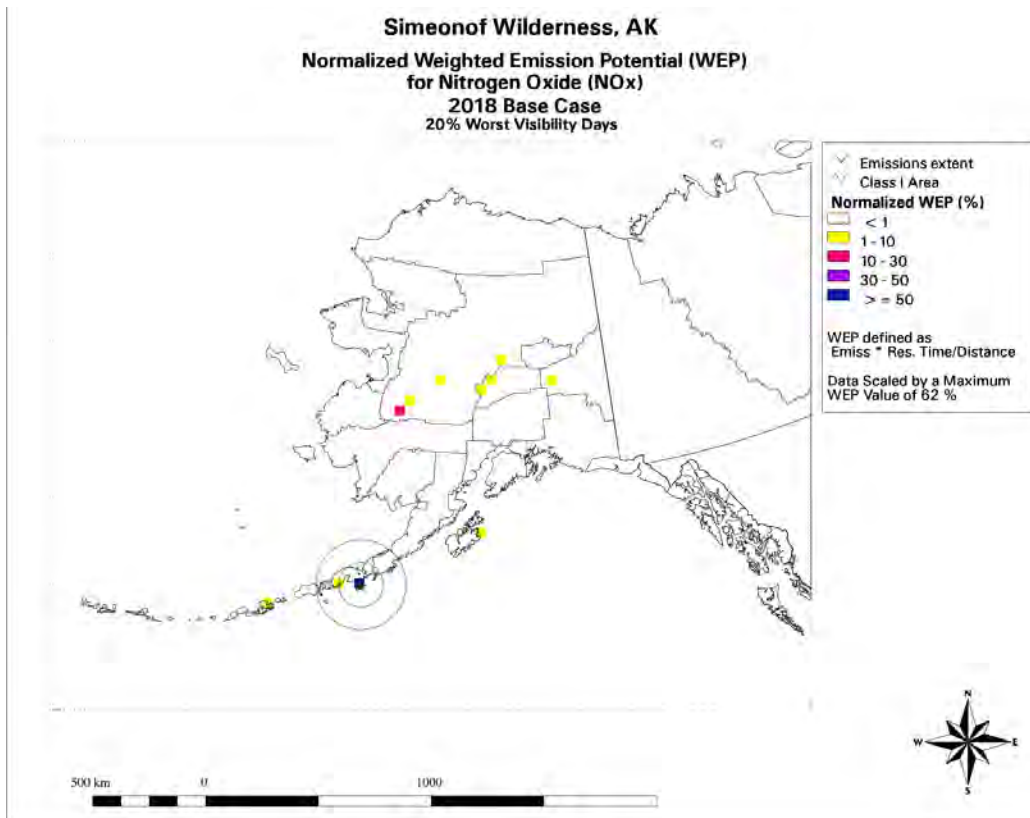
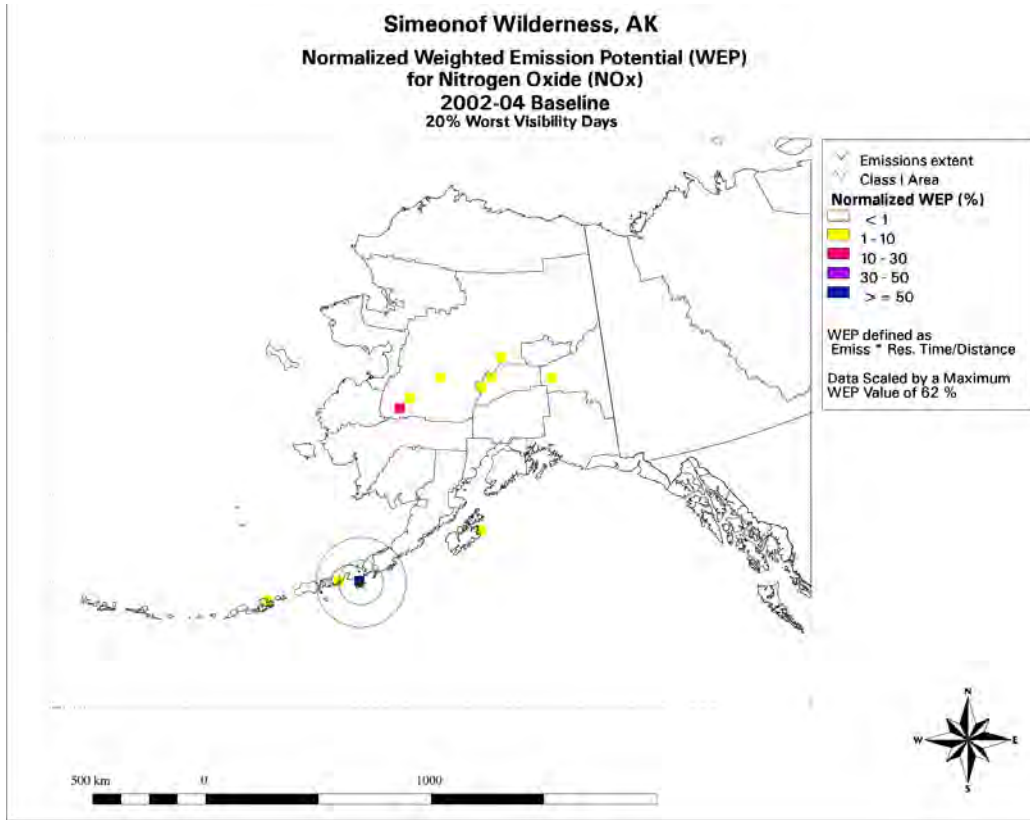


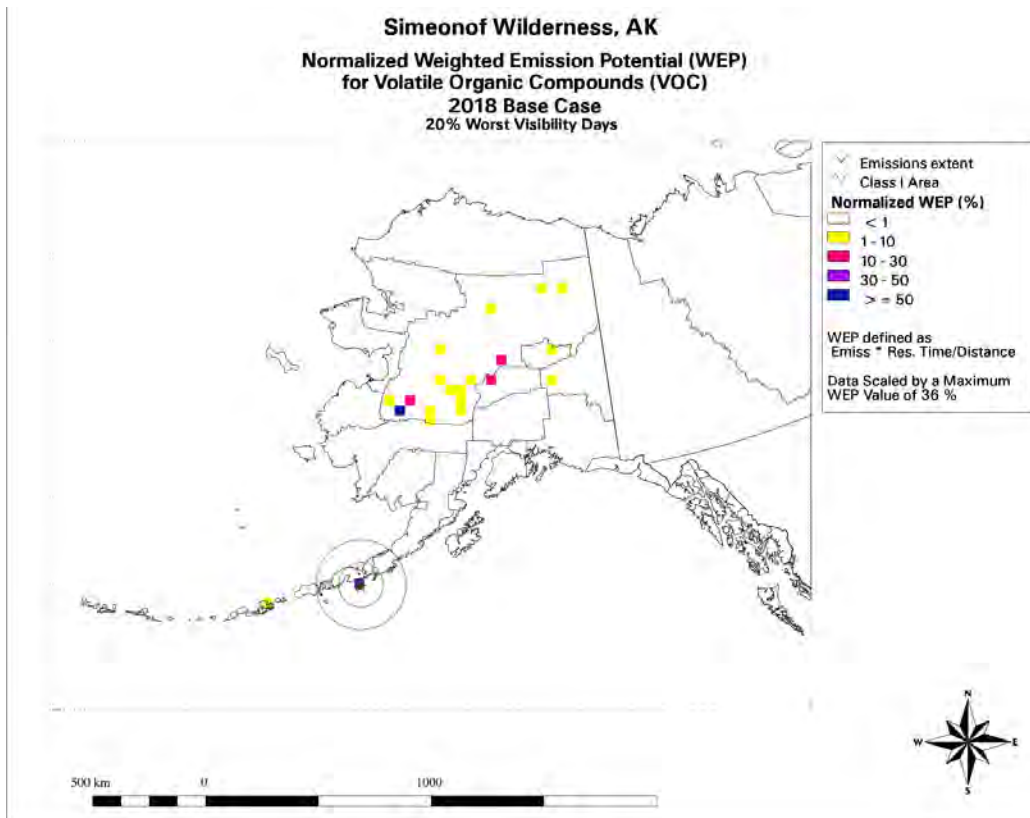
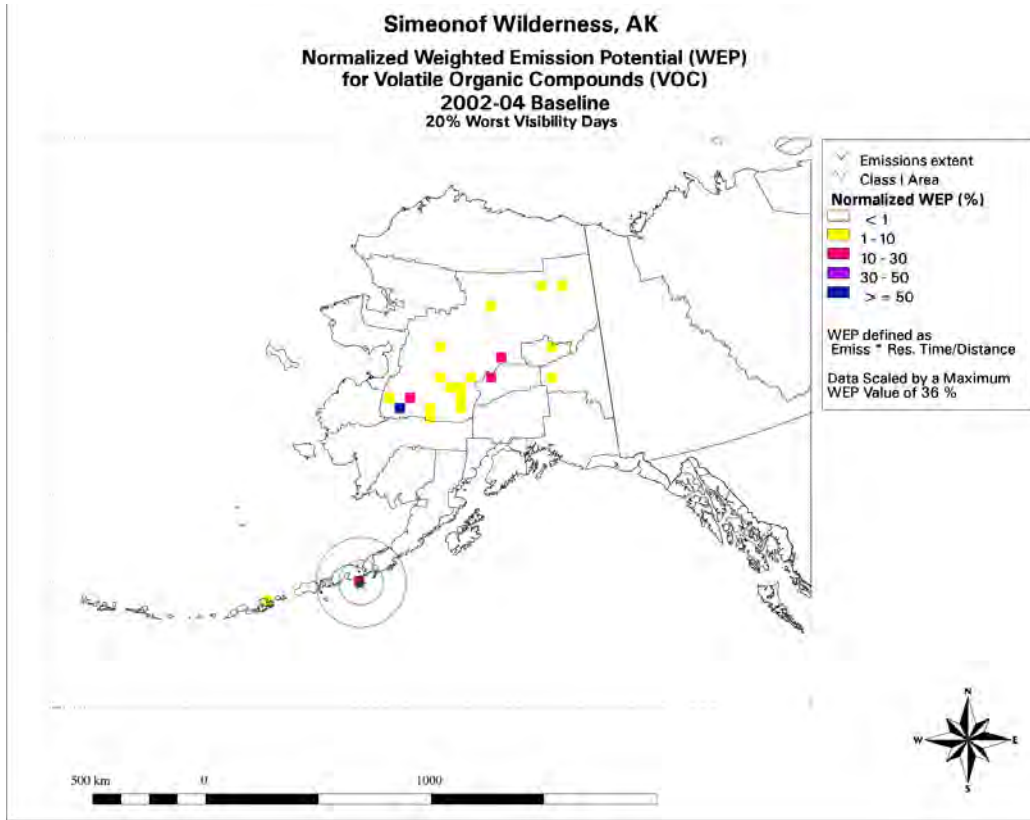
SIMEONOF WILDERNESS

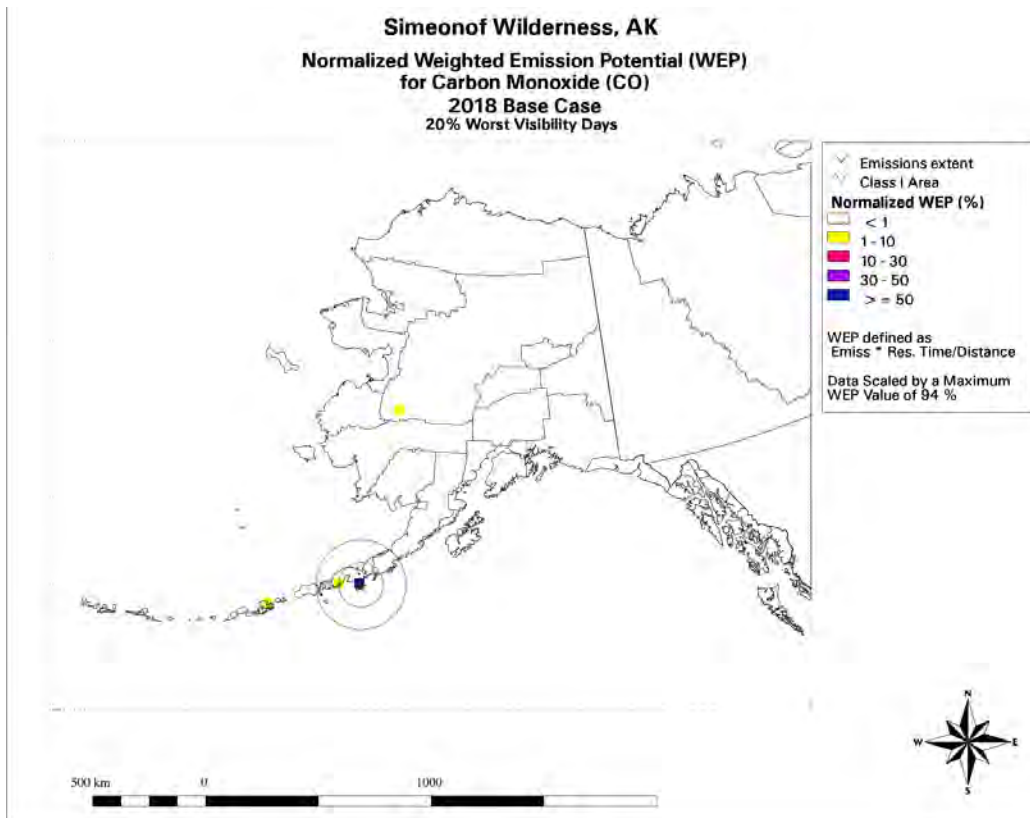
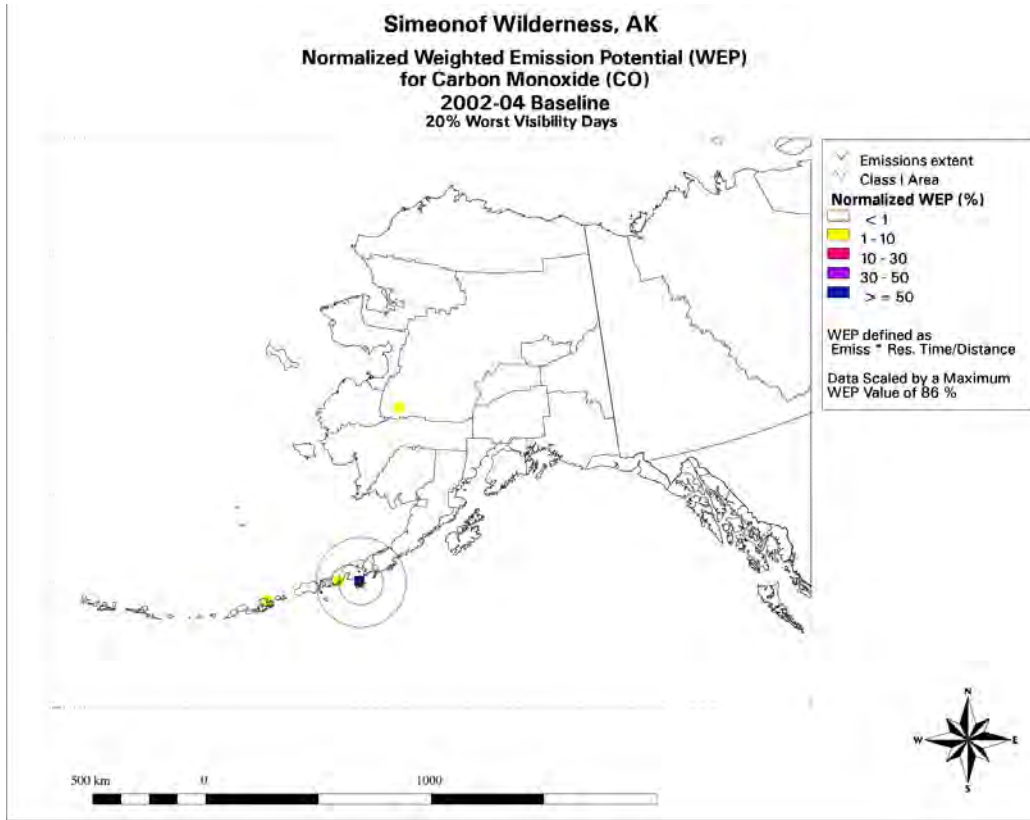




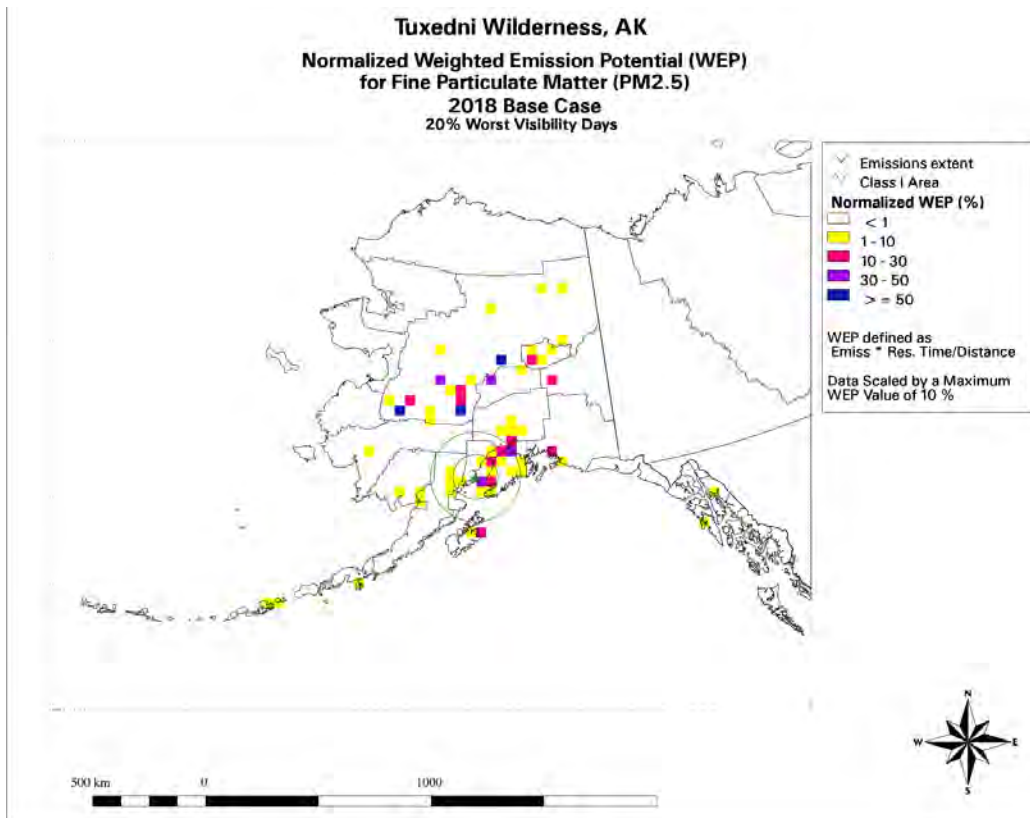
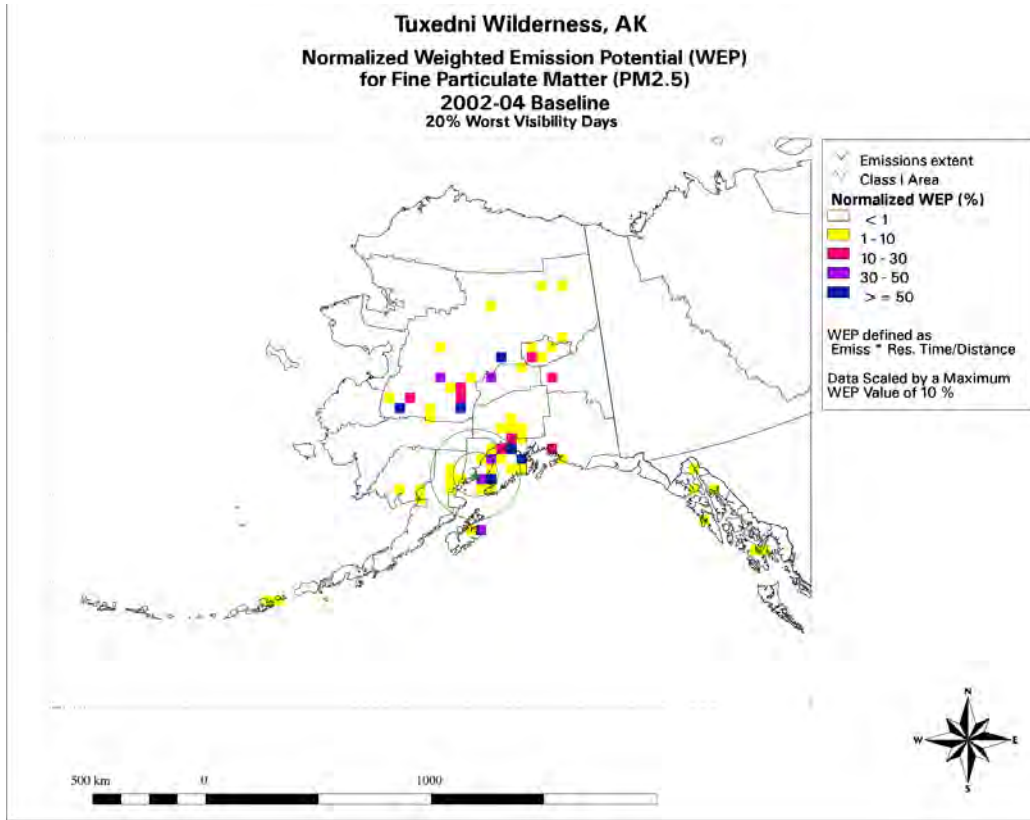


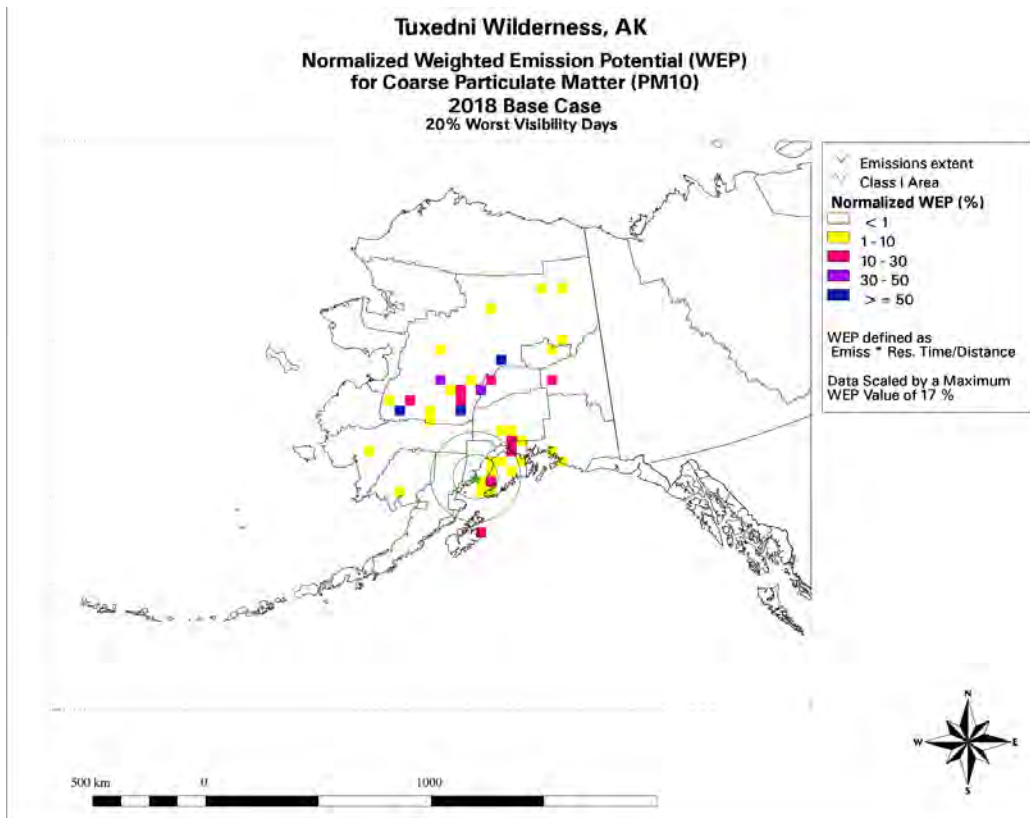
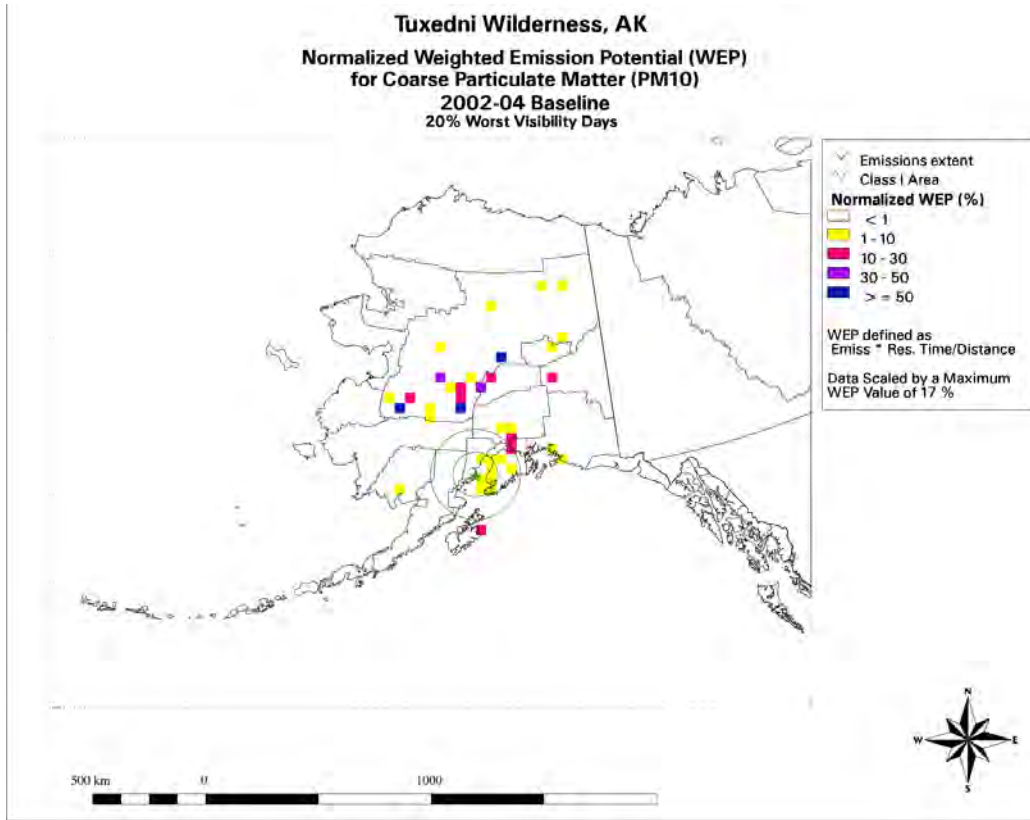


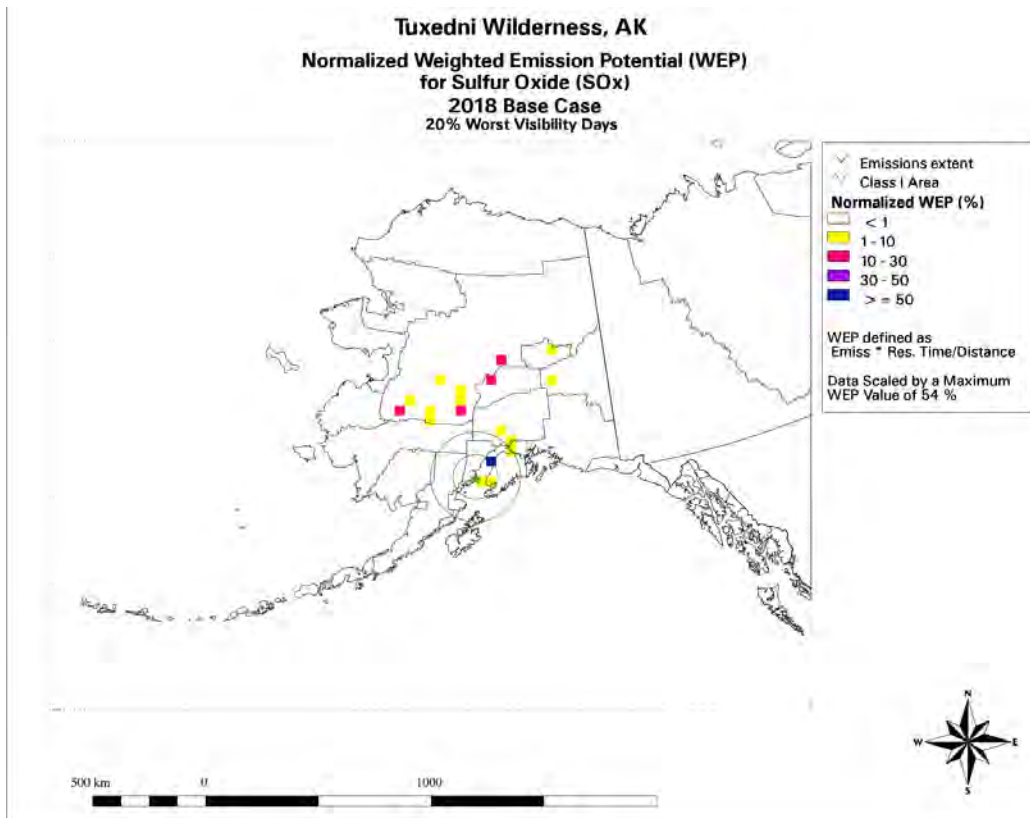
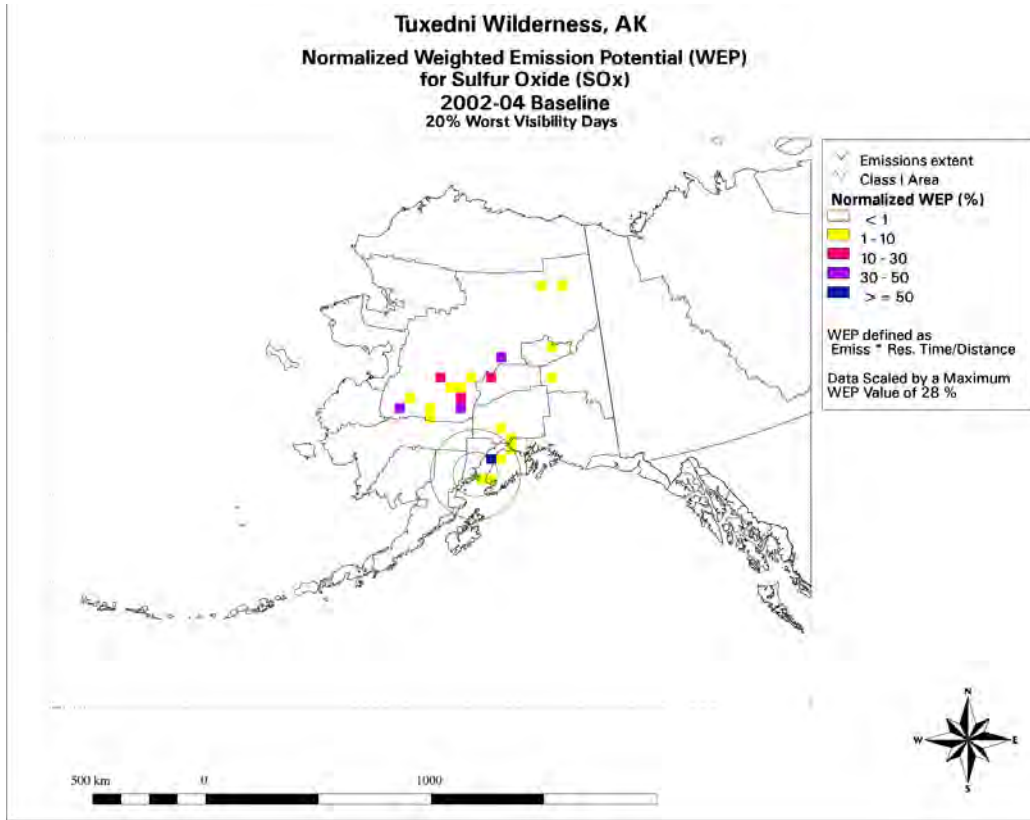


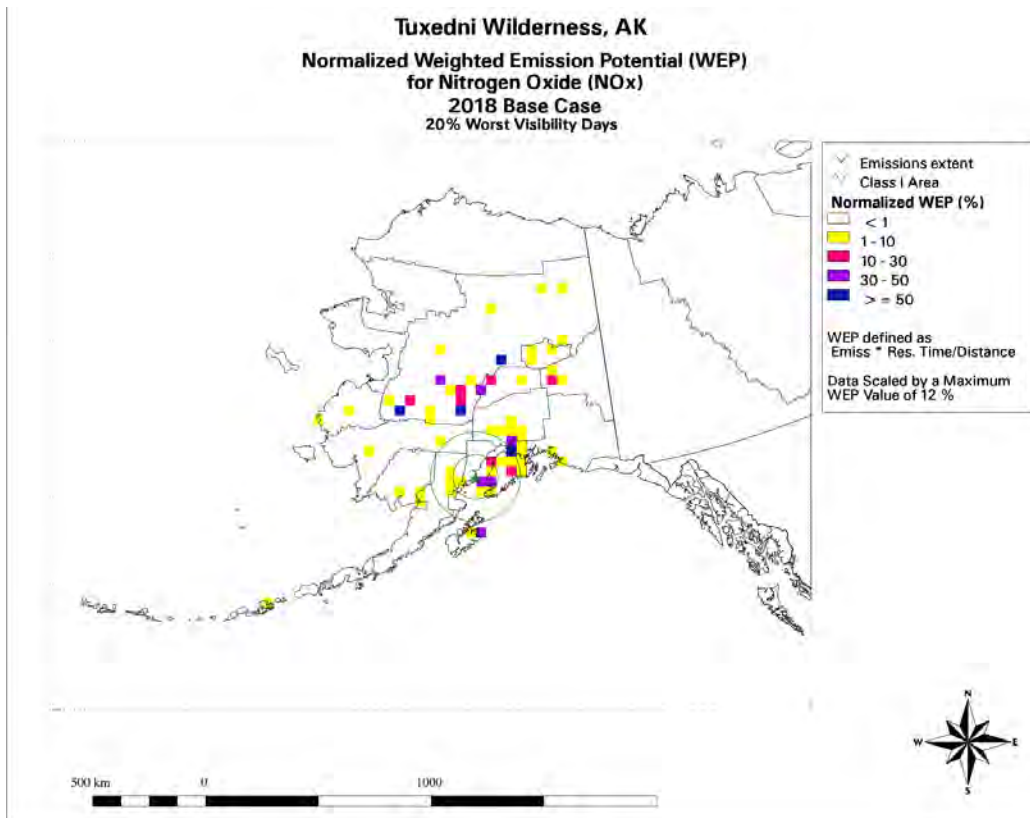
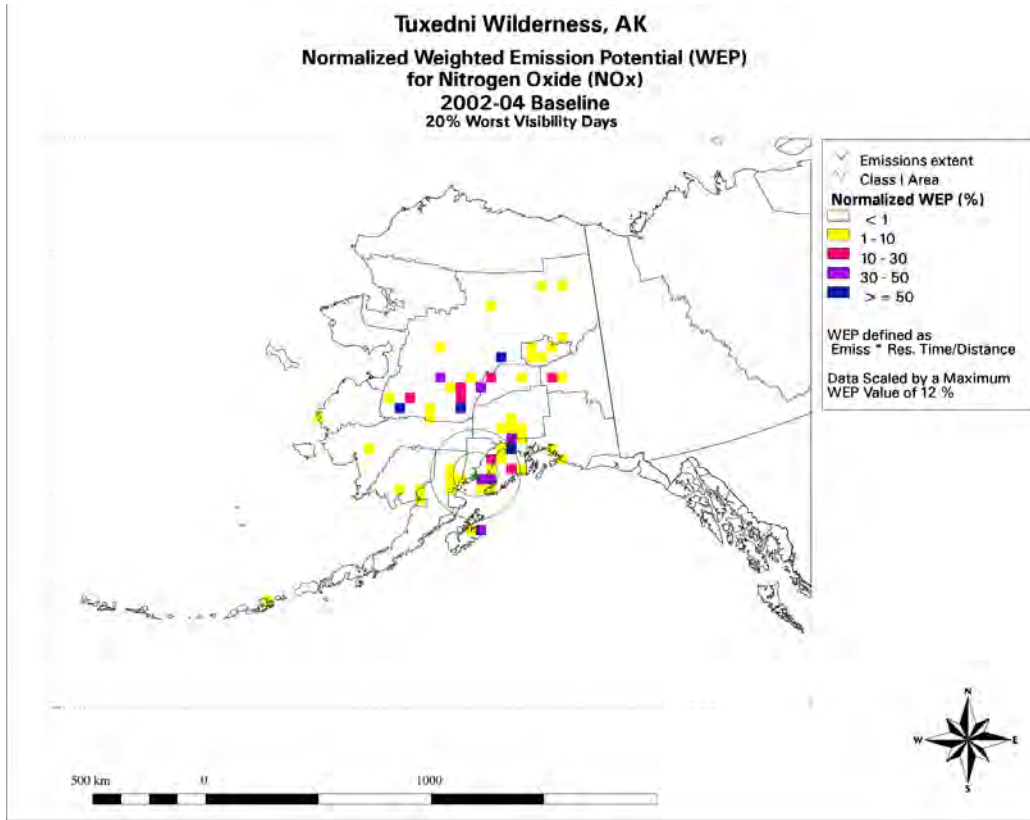


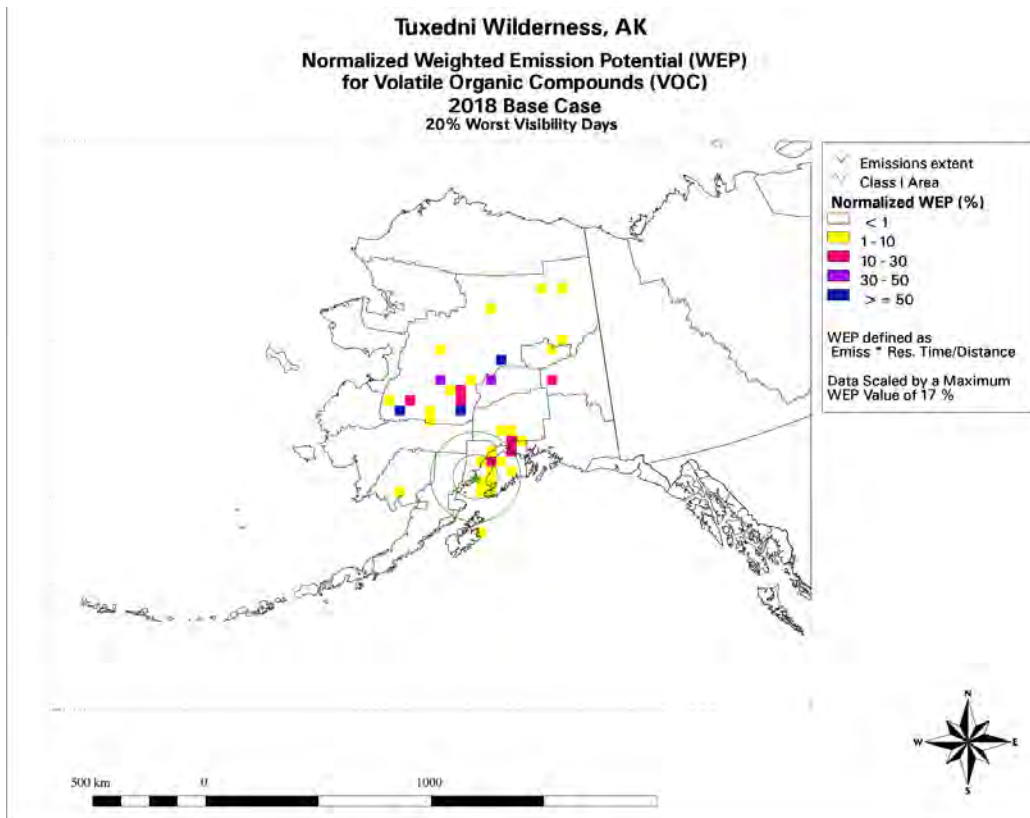
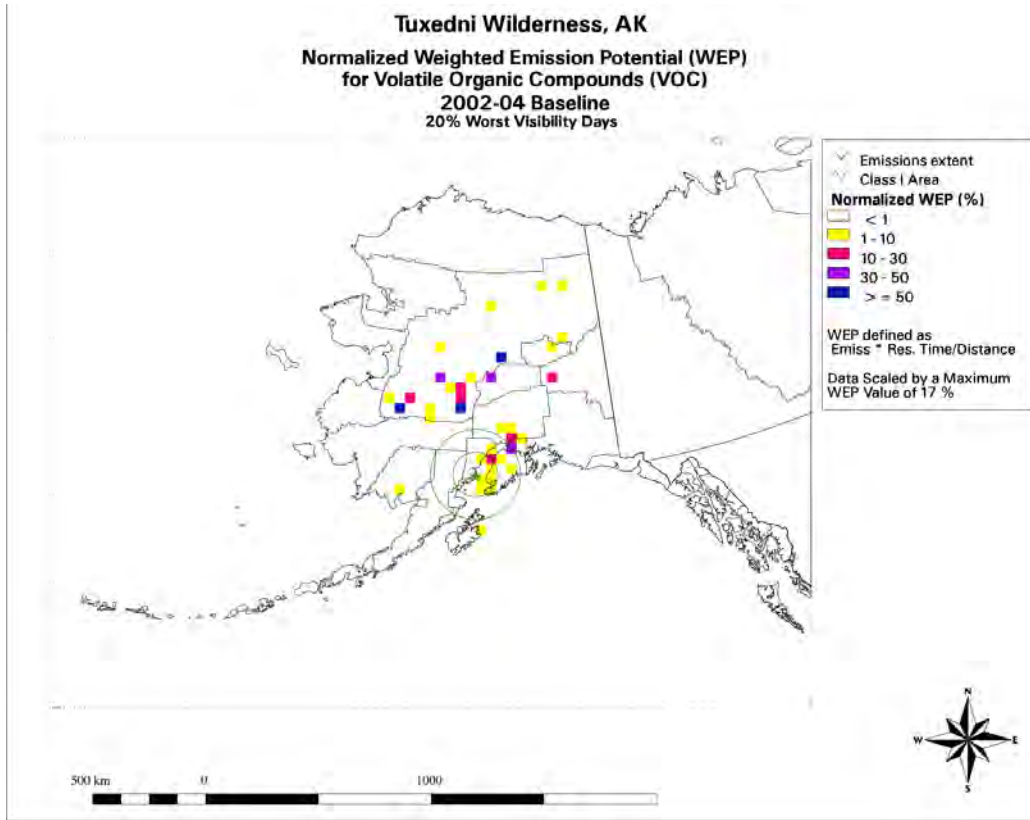
TUXEDNI WILDERNESS

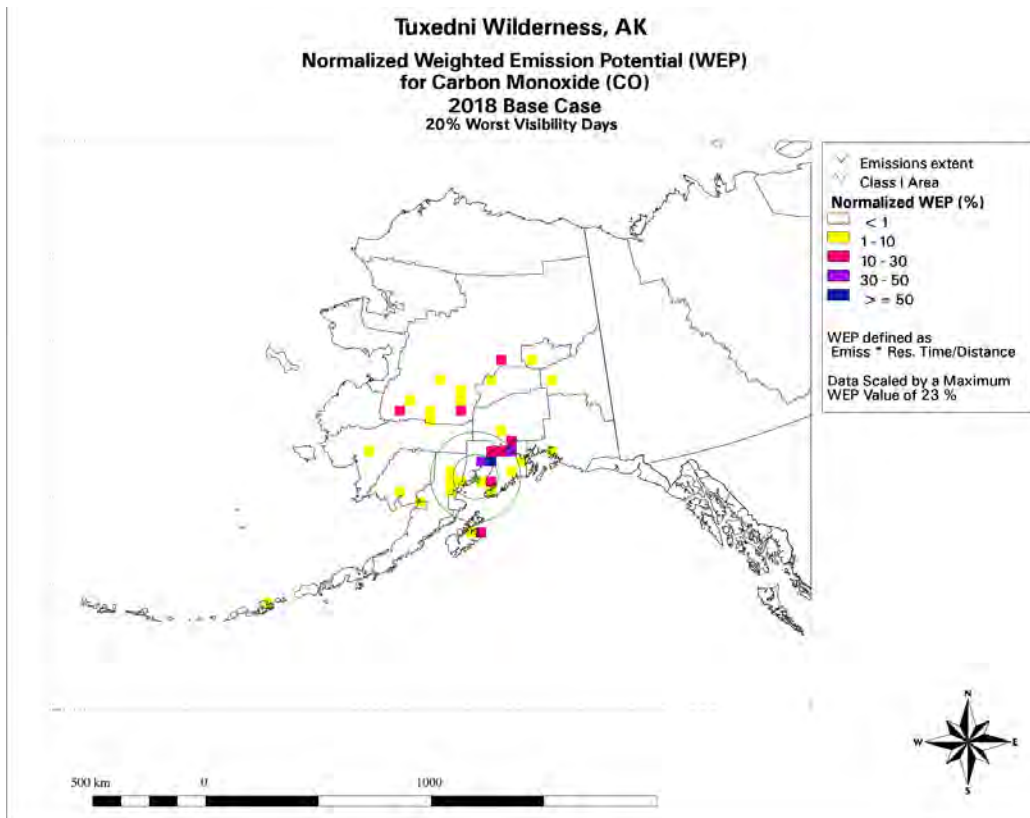
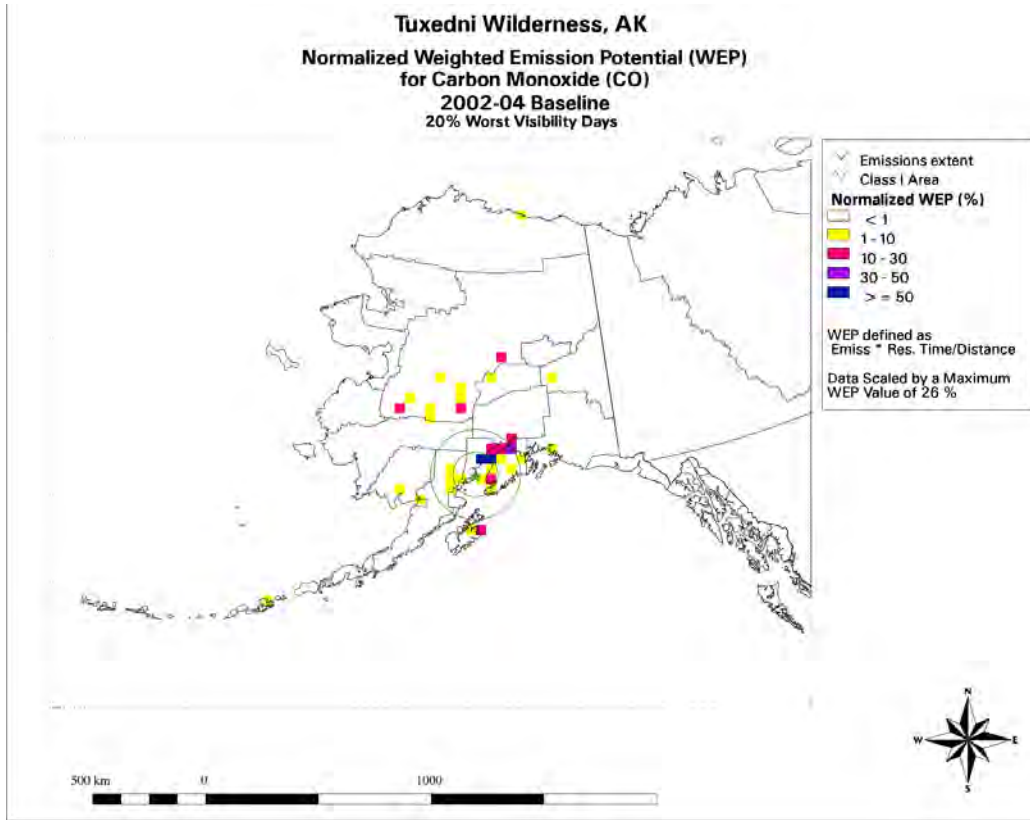












**Weighted Emissions Potential Analysis
Spreadsheets**

DENALI NATIONAL PARK

DENA Three Most Highest WEPs for Each Region and Pollutant

PM2.5	Dataset	Aviation & GSE		Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
		CMV											
Yukon-Koyukuk CA	2002	0.0	0.0	61.6	0.0	0.0	0.0	0.3	0.0	61.9			
	2018	0.0	0.0	61.6	0.0	0.0	0.0	0.3	0.0	61.9			
Southeast Fairbanks	2002	0.0	0.0	28.7	0.0	0.0	0.0	1.1	0.0	29.8			
	2018	0.0	0.0	28.7	0.0	0.0	0.0	1.4	0.0	30.1			
Fairbanks North Star	2002	0.0	0.0	2.3	0.0	0.0	0.0	1.3	0.0	3.7			
	2018	0.1	0.0	2.3	0.0	0.0	0.0	1.5	0.0	3.9			
2002 Total		0.1	0.0	92.6	0.0	0.0	0.0	2.7	0.0	95.5	100.0	7.1	100.0
2018 Total		0.1	0.0	92.6	0.0	0.0	0.0	3.2	0.0	95.9	100.2	7.3	103.4
										0.5	0.2		3.4

VOC	Dataset	Aviation & GSE		Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
		CMV											
Yukon-Koyukuk CA	2002	0.0	0.0	43.6	0.1	0.0	0.0	1.7	0.0	45.3		1.7	
	2018	0.0	0.0	43.6	0.0	0.0	0.0	1.5	0.0	45.2			
Southeast Fairbanks	2002	0.1	0.0	19.3	0.1	0.0	0.0	6.4	0.0	25.9			
	2018	0.1	0.0	19.3	0.2	0.0	0.0	8.2	0.0	27.8			
Denali Borough	2002	0.0	0.0	0.0	0.4	0.0	0.0	21.3	0.0	21.8			
	2018	0.0	0.0	0.0	0.4	0.0	0.0	19.2	0.0	19.7			
2002 Total										93.1	100.0	35.3	100.0
2018 Total										92.6	99.1	34.4	97.6
										-0.5	-0.9		-2.4

NOx	Dataset	Aviation & GSE		Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
		CMV											
Yukon-Koyukuk CA	2002	0.0	0.0	44.1	0.0	0.1	0.0	0.2	0.0	44.4			
	2018	0.0	0.0	44.1	0.0	0.0	0.0	0.1	0.0	44.3			
Southeast Fairbanks	2002	0.1	0.0	19.6	0.0	0.0	1.0	1.5	0.0	22.2			
	2018	0.2	0.0	19.6	0.0	0.0	0.8	1.9	0.0	22.5			
Fairbanks North Star	2002	0.6	0.0	1.6	0.5	2.5	10.8	0.4	0.0	16.3			
	2018	0.7	0.0	1.6	0.2	0.8	13.7	0.4	0.0	17.5			
2002 Total										82.9	100.0	34.5	100.0
2018 Total										84.4	99.5	34.0	98.6
										1.4	-0.5		-1.4

SO _x	Dataset	Aviation & GSE		Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
		CMV											
Fairbanks North Star	2002	0.2	0.0	1.3	0.0	0.3	23.7	2.6	0.0	28.0			
	2018	0.2	0.0	1.3	0.0	0.0	35.3	3.0	0.0	39.8			
Yukon-Koyukuk CA	2002	0.0	0.0	35.8	0.0	0.0	0.0	0.1	0.0	35.9			
	2018	0.0	0.0	35.8	0.0	0.0	0.0	0.1	0.0	35.9			
Southeast Fairbanks	2002	0.0	0.0	15.9	0.0	0.0	1.3	0.1	0.0	17.4			
	2018	0.0	0.0	15.9	0.0	0.0	0.8	0.2	0.0	16.9			
2002 Total										81.3	100.0	46.9	100.0
2018 Total										92.6	100.8	47.7	101.8
										11.3	0.8		1.8

NH ₃	Dataset	Aviation & GSE		Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
		CMV											
Yukon-Koyukuk CA	2002	0.0	0.0	65.9	0.0	0.0	0.0	0.0	0.0	65.9			
	2018	0.0	0.0	65.9	0.0	0.0	0.0	0.0	0.0	65.9			
Southeast Fairbanks	2002	0.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	29.2			
	2018	0.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	29.2			
Fairbanks North Star	2002	0.0	0.0	2.4	0.0	0.7	0.1	0.0	0.0	3.2			
	2018	0.0	0.0	2.4	0.0	0.7	0.1	0.0	0.0	3.3			
2002 Total										98.3	100.0	2.2	100.0
2018 Total										98.4	101.1	3.3	148.5
										0.1	1.1		48.5

PM ₁₀	Dataset	Aviation & GSE		Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
		CMV											
Yukon-Koyukuk CA	2002	0.0	0.0	52.9	0.0	0.0	0.0	0.9	0.0	53.8			
	2018	0.0	0.0	52.9	0.0	0.0	0.0	0.8	0.0	53.8			
Southeast Fairbanks	2002	0.0	0.0	24.7	0.0	0.0	0.0	2.5	0.0	27.2			
	2018	0.0	0.0	24.7	0.0	0.0	0.0	3.2	0.0	27.9			
Fairbanks North Star	2002	0.0	0.0	2.0	0.0	0.0	1.3	4.9	0.0	8.2			
	2018	0.0	0.0	2.0	0.0	0.0	0.3	5.6	0.0	7.9			
2002 Total										89.3	100.0	20.1	100.0
2018 Total										89.6	99.8	19.9	98.9
										0.3	-0.2		-1.1

TRAPPER CREEK WILDERNESS

TRCR Three Most Highest WEPs for Each Region and Pollutant

PM2.5	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0023	0	63.6511	0.001	0.0002	0.0001	0.157	0	63.8117			
	2018	0.0021	0	63.6511	0.0008	0.0001	0.0001	0.1433	0	63.7975			
Matanuska-Susitna	2002	0.9549	0.0008	3.9836	0.2725	0.1967	0	10.8874	0	16.2959			
	2018	1.268	0.0008	3.9836	0.2359	0.1159	0.0004	16.3658	0	21.9704			
Southeast Fairbanks	2002	0.0089	0	14.7838	0.0028	0	0	0.7811	0.0003	15.5769			
	2018	0.0114	0	14.7838	0.0035	0.0001	0	0.9985	0.0003	15.7976			
2002 Total										95.6845	100.00	15.51	100.0
2018 Total										101.566	105.96	21.47	138.5
										5.9	6.0	38.5	

VOC	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0055	0	43.7091	0.0207	0.0086	0.0001	0.6772	0	44.4212			
	2018	0.0051	0	43.7091	0.0189	0.0035	0.0001	0.6055	0	44.3422			
Matanuska-Susitna	2002	1.5123	0.0137	2.5995	4.9566	10.1879	0.2046	8.486	0	27.9606			
	2018	2.1373	0.0146	2.5995	6.1891	4.5769	0.2606	12.5963	0	28.3743			
Southeast Fairbanks	2002	0.0362	0	9.6484	0.0876	0.0075	0.0017	4.4983	0.0003	14.28			
	2018	0.0461	0	9.6484	0.112	0.0096	0.002	5.7506	0.0003	15.569			
2002 Total										86.6618	100.00	42.69	100.0
2018 Total										88.2855	102.16	44.85	105.1
										1.6	2.2	5.1	

NOx	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Matanuska-Susitna	2002	5.3577	0.094	1.6826	3.6299	14.3056	8.2052	4.5499	0	37.8249			
	2018	6.5586	0.1049	1.6826	2.5794	6.9418	9.0053	6.4113	0	33.2839			
Yukon-Koyukuk CA	2002	0.0029	0.0001	28.295	0.0121	0.0129	0.0035	0.049	0	28.3755			
	2018	0.0027	0.0002	28.295	0.0098	0.0047	0.0031	0.0443	0	28.3598			
Kenai Peninsula	2002	0.0108	2.8801	0	0.0999	0.3122	17.9974	0.4369	0	21.7373			
	2018	0.0123	4.6027	0	0.0644	0.1177	15.724	0.4823	0	21.0034			
2002 Total										87.9377	100.00	62.90	100.0
2018 Total										82.6471	94.87	57.77	91.8
										-5.3	-5.1	-8.2	

SOx	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0041	0.0001	44.1092	0.0005	0.0034	0.0012	0.0505	0	44.169			
	2018	0.0041	0	44.1092	0.0004	0.0003	0.0014	0.0533	0	44.1687			
Matanuska-Susitna	2002	3.8157	0.0936	2.6213	0.0304	3.8769	0.019	14.5161	0	24.973			
	2018	4.7948	0.0038	2.6213	0.0392	0.5127	0.0152	23.6884	0	31.6754			
Fairbanks North Star	2002	0.053	0.0006	0.7672	0.0027	0.1098	6.3078	0.818	0	8.0591			
	2018	0.0627	0	0.7672	0.0014	0.0114	8.837	0.9635	0	10.6432			
2002 Total										77.2011	100.00	42.17	100.0
2018 Total										86.4873	100.86	43.03	102.0
										9.3	0.9	2.0	

NH3	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0004	0	66.5381	0	0.0056	0	0	0	66.5441			
	2018	0.0004	0	66.5381	0	0.0065	0	0	0	66.545			
Southeast Fairbanks	2002	0.0008	0	14.6881	0.0009	0.0143	0	0	0.0004	14.7045			
	2018	0.0008	0	14.6881	0.0009	0.0177	0	0	0.0004	14.7079			
Matanuska-Susitna	2002	0.0449	0	3.9554	0.03	6.9794	0	0	0	11.0097			
	2018	0.1702	0	3.9554	0.0924	9.6798	0	0	0	13.8978			
2002 Total										92.2583	100.00	12.76	100.0
2018 Total										95.1507	107.72	20.47	160.5
										2.9	7.7	60.5	

PM10	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Matanuska-Susitna	2002	0.6266	0.0005	2.8752	0.1823	0.1493	0.0639	31.0013	0	34.8991			
	2018	0.8398	0.0005	2.8752	0.1526	0.1316	0.0702	46.9916	0	51.0615			
Yukon-Koyukuk CA	2002	0.0015	0	45.9413	0.0007	0.0001	0	0.346	0	46.2896			
	2018	0.0014	0	45.9413	0.0006	0.0001	0.0001	0.3186	0	46.2621			
Southeast Fairbanks	2002	0.0057	0	10.6705	0.0019	0.0001	0.0099	1.5187	0.0002	12.207			
	2018	0.0072	0	10.6705	0.0024	0.0001	0.0113	1.9415	0.0002	12.6332			
2002 Total										93.3957	100.00	39.01	100.0
2018 Total										109.957	116.50	55.51	142.3
										16.6	16.5	42.3	

SIMEONOF WILDERNESS

SIME		Three Most Highest WEPs for Each Region and Pollutant											
PM2.5	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0053	0	88.0209	0.0013	0.0001	0.001	0.2484	0	88.277			
	2018	0.0046	0	88.0209	0.0012	0	0.0016	0.2229	0	88.2512			
Southeast Fairbanks	2002	0.0021	0	2.508	0.0011	0	0	0.3232	0.0005	2.8349			
	2018	0.0026	0	2.508	0.0014	0	0	0.4131	0.0005	2.9256			
Fairbanks North Star	2002	0.0055	0	0.7378	0.0034	0.0025	0.0026	0.1506	0	0.9024			
	2018	0.0065	0	0.7378	0.0022	0.001	0.003	0.1731	0	0.9236			
2002 Total										92.0143	100.00	5.25	100.0
2018 Total										92.1004	100.31	5.56	106.0
										0.1	0.3	6.0	
VOC	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.013	0	67.5032	0.0277	0.0045	0.0011	1.1252	0	68.6747			
	2018	0.0119	0	67.5032	0.025	0.002	0.0013	1.0041	0	68.5475			
Dillingham CA	2002	0.0622	0.0055	0	0.2223	0.0152	0.0151	4.6563	0	4.9766			
	2018	0.0656	0.0066	0	0.2319	0.0156	0.013	4.855	0	5.1877			
Southeast Fairbanks	2002	0.0087	0	1.8209	0.0406	0.0034	0.0018	2.0692	0.0005	3.9451			
	2018	0.011	0	1.8209	0.0519	0.0045	0.0021	2.6452	0.0005	4.5361			
2002 Total										77.5964	100.00	27.61	100.0
2018 Total										78.2713	102.77	30.38	110.0
										0.7	2.8	10.0	
NOx	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0096	0.0004	53.7909	0.0314	0.0078	0.0611	0.1109	0	54.0121			
	2018	0.0087	0.0005	53.7909	0.0274	0.0029	0.0546	0.0991	0	53.9841			
North Slope Borough	2002	0.0009	0	0	0.0088	0.0003	9.5703	0.0092	0	9.5895			
	2018	0.0011	0	0	0.0095	0.0003	7.4473	0.009	0	7.4672			
Kenai Peninsula	2002	0.0047	0.4423	0	0.0452	0.1466	6.218	0.1521	0	7.0089			
	2018	0.0054	0.6754	0	0.0282	0.0561	5.2505	0.1673	0	6.1829			
2002 Total										70.6105	100.00	42.32	100.0
2018 Total										67.6342	97.20	39.51	93.4
										-3.0	-2.8	-6.6	

SOx	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0122	0.0003	73.9378	0.0009	0.0017	0.0189	0.0677	0	74.0395			
	2018	0.0117	0	73.9378	0.0008	0.0002	0.0212	0.0644	0	74.0361			
Fairbanks North Star	2002	0.0275	0.0003	0.5867	0.0014	0.0579	3.168	0.4312	0	4.273			
	2018	0.0325	0	0.5867	0.0007	0.006	4.4057	0.5081	0	5.5397			
Dillingham CA	2002	0.0547	0.0826	0	0.0549	0.0009	0.5547	2.0138	0	2.7616			
	2018	0.0581	0.0023	0	0.0576	0.0009	0.5538	2.0766	0	2.7493			
2002 Total										81.0741	100.00	20.71	100.0
2018 Total										82.3251	97.83	18.54	89.5
										1.3	-2.2	-10.5	

NH3	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0007	0	90.9993	0	0.0024	0	0	0	91.0024			
	2018	0.0007	0	90.9993	0	0.0028	0	0	0	91.0028			
Kenai Peninsula	2002	0.0004	0.0008	0	0	0.0561	2.0026	0	0	2.0599			
	2018	0.0004	0.0019	0	0	0.0568	3.8245	0	0	3.8836			
Southeast Fairbanks	2002	0.0001	0	2.4548	0.0005	0.0058	0	0	0.0006	2.4618			
	2018	0.0001	0	2.4548	0.0005	0.0073	0	0	0.0006	2.4633			
2002 Total										95.5241	100.00	2.41	100.0
2018 Total										97.3497	101.97	4.39	181.7
										1.8	2.0	81.7	

PM10	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0042	0	78.8354	0.0011	0.0001	0.0008	0.6837	0	79.5253			
	2018	0.0037	0	78.8354	0.001	0	0.0012	0.615	0	79.4563			
Aleutians East	2002	0.0003	0.0024	0	0.0021	0	0	3.814	0	3.8188			
	2018	0.0003	0.0024	0	0.001	0	0	3.6957	0	3.6994			
Bethel CA	2002	0.0195	0	2.1182	0.0054	0.0001	0.0078	1.1334	0	3.2844			
	2018	0.0232	0	2.1182	0.0065	0.0001	0.0103	1.3125	0	3.4708			
2002 Total										86.6285	100.00	15.14	100.0
2018 Total										86.6265	100.47	15.61	103.1
										0.0	0.5	3.1	

TUXEDNI WILDERNESS

TUXE Three Most Highest WEPs for Each Region and Pollutant

PM2.5	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Yukon-Koyukuk CA	2002	0.0028	0	71.7426	0.0008	0.0001	0.0003	0.1434	0	71.89			
	2018	0.0025	0	71.7426	0.0007	0	0.0005	0.1298	0	71.8761			
Kenai Peninsula	2002	0.0837	0.2353	0	0.3297	0.2366	0.6201	16.2884	0	17.7938			
	2018	0.0943	0.4394	0	0.21	0.0911	0.0447	17.9233	0	18.8028			
Matanuska-Susitna	2002	0.2884	0.0004	0.7856	0.0639	0.046	0	2.3663	0	3.5506			
	2018	0.3436	0.0004	0.7856	0.0507	0.0258	0.0002	3.3121	0	4.5184			
2002 Total										93.2344	100.00	22.84	100.0
2018 Total										95.1973	102.07	24.91	109.1
										1.96	2.07		9.1

VOC	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Kenai Peninsula	2002	0.1002	0.1465	0	5.662	8.9212	16.8876	15.3616	0	47.0791			
	2018	0.1135	0.2494	0	5.037	3.0224	22.082	17.2024	0	47.7067			
Yukon-Koyukuk CA	2002	0.0049	0	36.1579	0.0129	0.0041	0.0003	0.4601	0	36.6402			
	2018	0.0044	0	36.1579	0.0117	0.0017	0.0003	0.411	0	36.587			
Matanuska-Susitna	2002	0.2927	0.0017	0.3939	0.7422	1.885	0.0692	1.8439	0	5.2286			
	2018	0.3567	0.002	0.3939	0.8786	0.778	0.0881	2.5739	0	5.0712			
2002 Total										88.9479	100.00	61.12	100.0
2018 Total										89.3649	101.02	62.14	101.7
										0.42	1.02		1.7

NOx	Dataset	Aviation & GSE	CMV	Natural Fires	Non-Road Mobile	On-Road Mobile	Point	Stationary Area	Anthropogenic Fires	Total	Grand Total	Anthropogenic Grand Total	
Kenai Peninsula	2002	0.0388	3.4955	0	1.7908	8.0282	60.9012	2.0805	0	76.335			
	2018	0.0443	5.0448	0	0.8622	2.6574	48.6917	2.3156	0	59.616			
Yukon-Koyukuk CA	2002	0.0018	0.0001	13.886	0.0055	0.0036	0.0069	0.021	0	13.9249			
	2018	0.0016	0.0001	13.886	0.0046	0.0013	0.0062	0.0188	0	13.9186			
Matanuska-Susitna	2002	0.9816	0.0119	0.1513	0.4156	1.4911	1.6458	0.6153	0	5.3126			
	2018	1.1613	0.0138	0.1513	0.2934	0.7136	1.8063	0.8085	0	4.9482			
2002 Total										95.5725	100.00	85.07	100.0
2018 Total										78.4828	82.94	68.01	79.9
										-17.09	-17.06		-20.1

SOx	Dataset	Aviation & GSE		Natural	Non-Road	On-Road	Stationary Anthropogenic		Total	Grand Total	Anthropogenic Grand Total	
		CMV	Fires	Mobile	Mobile	Point	Area	Fires				
Yukon-Koyukuk CA	2002	0.0044	0.0001	39.2639	0.0004	0.0017	0.0044	0.033	0	39.3079		
	2018	0.0043	0	39.2639	0.0003	0.0002	0.0049	0.0336	0	39.3072		
Kenai Peninsula	2002	0.091	13.724	0	0.0027	3.8967	4.2926	25.6739	0	47.6807		
	2018	0.1018	0.7165	0	0.0027	0.2532	5.0119	28.8929	0	34.979		
Matanuska-Susitna	2002	1.1796	0.0272	0.4275	0.0111	0.7552	0.0069	1.3143	0	3.7218		
	2018	1.3966	0.0014	0.4275	0.0108	0.1011	0.0055	2.1312	0	4.0741		
2002 Total									90.7104	100.00	57.79	100.0
2018 Total									78.3603	87.00	44.78	
									-12.35	-13.00		

NH3	Dataset	Aviation & GSE		Natural	Non-Road	On-Road	Stationary Anthropogenic		Total	Grand Total	Anthropogenic Grand Total	
		CMV	Fires	Mobile	Mobile	Point	Area	Fires				
Kenai Peninsula	2002	0.0075	0.0106	0	0	5.328	37.9118	0	0	43.2579		
	2018	0.0075	0.0258	0	0	5.6692	72.4002	0	0	78.1027		
Yukon-Koyukuk CA	2002	0.0003	0	51.5049	0	0.0025	0	0	0	51.5077		
	2018	0.0003	0	51.5049	0	0.0029	0	0	0	51.5081		
Matanuska-Susitna	2002	0.0142	0	0.5609	0.0095	1.2423	0	0	0	1.8269		
	2018	0.0159	0	0.5609	0.0233	1.5793	0	0	0	2.1794		
2002 Total									96.5925	100.00	44.62	100.0
2018 Total									131.79	135.21	79.83	178.9
									35.20	35.21	78.9	

PM10	Dataset	Aviation & GSE		Natural	Non-Road	On-Road	Stationary Anthropogenic		Total	Grand Total	Anthropogenic Grand Total	
		CMV	Fires	Mobile	Mobile	Point	Area	Fires				
Peninsula	2002	0.0463	0.1276	0	0.1887	0.1648	1.0261	40.983	0	42.5365		
	2018	0.0527	0.1971	0	0.1259	0.0958	0.7503	44.9773	0	46.1991		
Yukon-Koyukuk CA	2002	0.0015	0	44.2336	0.0005	0.0001	0.0002	0.2713	0	44.5072		
	2018	0.0014	0	44.2336	0.0004	0	0.0003	0.2472	0	44.4829		
Matanuska-Susitna	2002	0.1566	0.0002	0.4843	0.0355	0.0292	0.024	5.3783	0	6.1081		
	2018	0.1867	0.0002	0.4843	0.0284	0.0252	0.0264	7.608	0	8.3592		
2002 Total									93.1518	100.00	52.42	100.0
2018 Total									99.0412	105.94	58.36	111.3
									5.89	5.94	11.3	

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