



Supplementary Materials

Table S1. Chemical components in PM_{2.5} in SMA and GRA.

Species	SMA		GRA		
	Mean	Max	Mean	Max	
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	24.7	118.0	27.6	132.0	
Ion ($\mu\text{g}/\text{m}^3$)	SO ₄ ²⁻	2.8	17.4	4.0	23.9
	NO ₃ ⁻	5.6	42.2	7.7	63.7
	Cl ⁻	0.26	2.8	0.53	12.1
	Na ⁺	0.07	1.5	0.14	1.5
	NH ₄ ⁺	2.6	17.2	3.8	21.4
	K ⁺	0.08	1.5	0.16	1.9
	Mg ²⁺	0.008	0.2	0.023	0.4
	Ca ²⁺	0.08	1.4	0.08	3.1
Carbon ($\mu\text{g}/\text{m}^3$)	OC	3.8	15.5	4.0	22.6
	EC	0.8	5.4	0.8	8.2
Metal (ng/m^3)	Si	114.4	4,494.6	126.3	11,727.7
	S	1,297.3	7,545.1	1,450.5	8,376.3
	K	293.0	2,467.6	222.2	2,486.0
	Ca	81.1	1,855.3	71.8	3,192.8
	Ti	7.8	95.9	9.9	256.6
	V	0.4	6.6	0.6	11.7
	Cr	1.0	31.8	1.7	26.4
	Mn	7.3	50.2	11.1	115.0
	Fe	165.4	1,799.9	224.8	3,070.1
	Ni	0.9	10.2	1.3	26.1
	Cu	3.8	115.2	16.6	951.4
	Zn	35.4	661.6	53.5	1,118.3
	As	6.8	490.1	5.2	451.0
	Se	0.8	6.7	0.9	18.1
	Br	5.7	55.0	8.7	162.0
	Ba	2.2	127.1	4.3	138.7
Pb	11.2	213.2	21.7	495.6	

Table S2. Ammonia season data

	Spring (ppb)	Summer (ppb)	Autumn (ppb)	Winter (ppb)	Year (ppb)
SMA	8.6±3.1	8.8±3.2	6.6±2.1	5.2±2.5	7.0±3.1
GRA	11.1±4.0	11.2±4.7	10.3±3.8	7.9±4.4	10.1±4.5

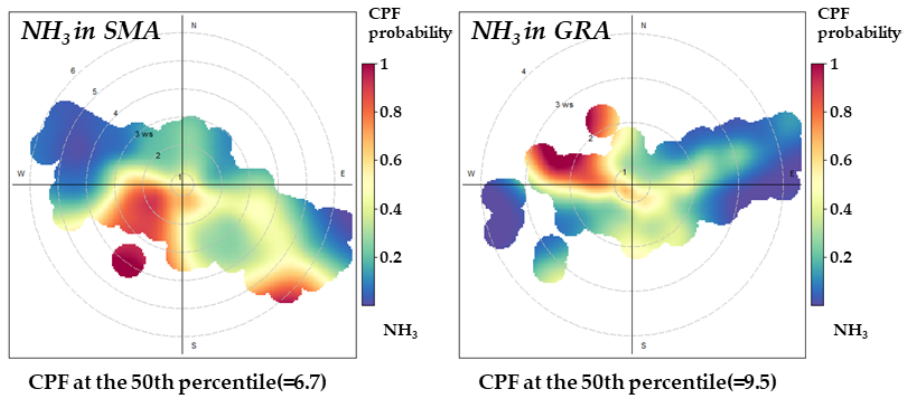


Fig. S1. CBPF plots for the contributor of ammonia in SMA and GRA [year].

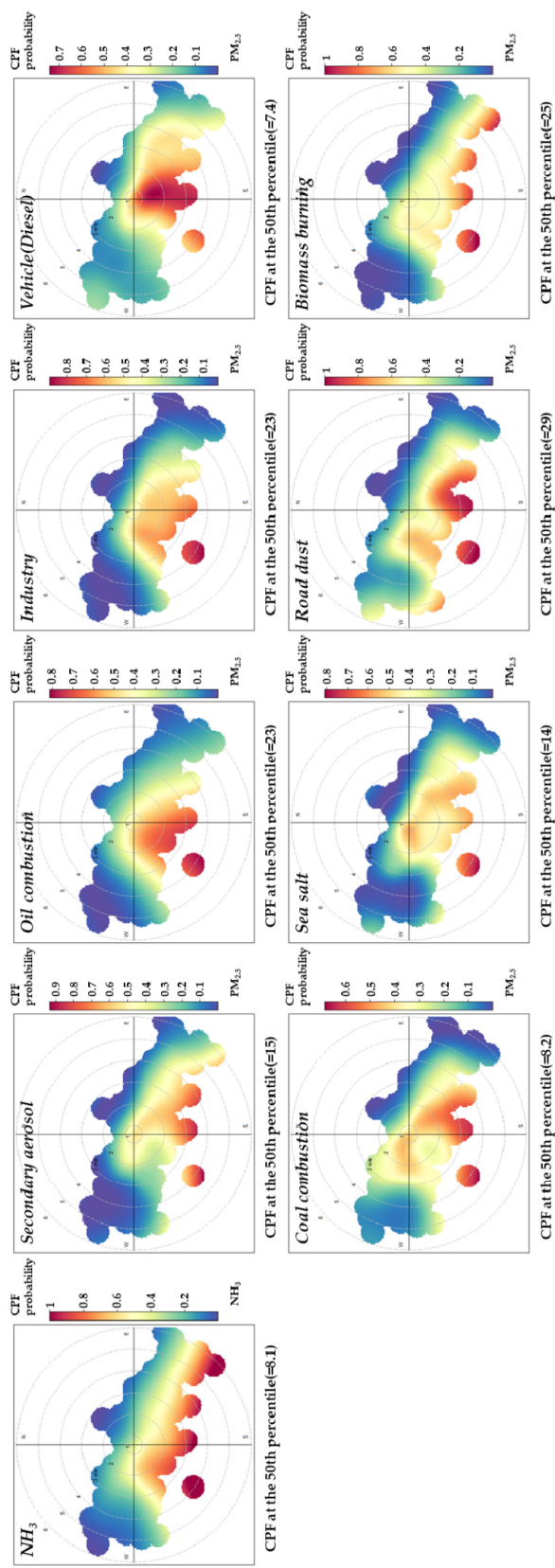


Fig. S2. CBPF plots for the contributor of $PM_{2.5}$ and ammonia at SMA spring;

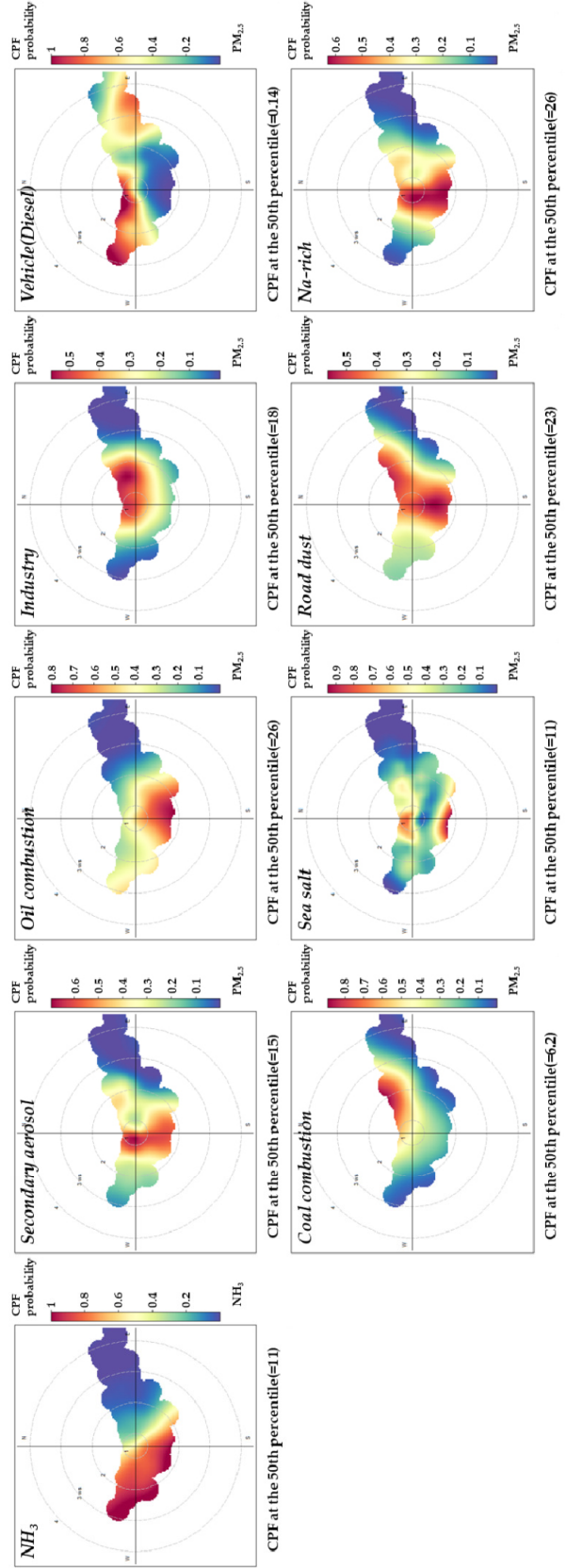


Fig. S3. CBPF plots for the contributor of $PM_{2.5}$ and ammonia at GRA spring.