

Supplementary Materials for Impact of the COVID-19 outbreak on Air Quality in Korea

Supplementary Materials includes:

Supplemental Tables 1 to 3

Supplemental Figures 1 to 2

Table S1. Comparison of meteorological conditions (the same month in 2020 and the previous 3 years).

	Precipitation (mm)		Temperature (°C)		Wind (m/s)		Total Sunshine Duration (hr)	
	Control Period (2017-2019)	COVID-19 (2020)	Control Period (2017-2019)	COVID-19 (2020)	Control Period (2017-2019)	COVID-19 (2020)	Control Period (2017-2019)	COVID-19 (2020)
Mean (SD)	3.5 (3.2)	2.9 (4.7)	5.4 (6.9)	6.7 (5.6)	2.1 (0.1)	2.5 (0.4)	228.6 (43.8)	221.0 (42.2)
Min	0.0	0.0	-4.0	-2.0	1.8	1.9	190.5	185
Max	10.5	19.9	17.3	19.8	2.4	3.5	314	283.3
<i>P</i> value	0.249		0.097		0.561		0.329	

Table S2. Distribution of indicatory pollutants of monthly AQI in Seoul.

AQI (2020)	JANUARY				FEBRUARY				MARCH				APRIL			
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃
0-50	0.0%	12.9%	0.0%	3.2%	0.0%	19.4%	0.0%	0.0%	6.5%	12.9%	0.0%	0.0%	6.5%	12.9%	0.0%	3.2%
51-100	0.0%	64.5%	0.0%	0.0%	0.0%	51.6%	0.0%	0.0%	0.0%	74.2%	0.0%	0.0%	3.2%	71.0%	0.0%	0.0%
101-150	0.0%	19.4%	0.0%	0.0%	0.0%	22.6%	0.0%	0.0%	0.0%	6.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
151-200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AQI (2020)	MAY				JUNE				JULY							
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃				
0-50	0.0%	35.5%	0.0%	3.2%	0.0%	16.1%	0.0%	6.5%	0.0%	41.9%	0.0%	19.4%				
51-100	3.2%	58.1%	0.0%	0.0%	0.0%	74.2%	0.0%	0.0%	0.0%	38.7%	0.0%	0.0%				
101-150	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
151-200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
AQI	JANUARY				FEBRUARY				MARCH				APRIL			
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃
2017-2019	48	125	-	10	49	127	-	14	48	129	-	22	48	121	-	23
AQI	MAY				JUNE				JULY							
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃				
2017-2019	39	120	-	33	34	99	-	31	22	82	-	24				

Table S3. Distribution of indicatory pollutants of monthly AQI in Daegu.

AQI (2020)	JANUARY				FEBRUARY				MARCH				APRIL			
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃
0-50	0.0%	22.6%	0.0%	3.2%	0.0%	22.6%	0.0%	3.2%	0.0%	25.8%	0.0%	0.0%	6.5%	16.1%	0.0%	6.5%
51-100	0.0%	58.1%	0.0%	0.0%	0.0%	54.8%	0.0%	0.0%	3.2%	71.0%	0.0%	0.0%	0.0%	67.7%	0.0%	0.0%
101-150	0.0%	16.1%	0.0%	0.0%	0.0%	12.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
151-200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
AQI (2020)	MAY				JUNE				JULY							
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃				
0-50	3.2%	16.1%	0.0%	3.2%	0.0%	29.0%	0.0%	3.2%	0.0%	54.8%	0.0%	9.7%				
51-100	3.2%	74.2%	0.0%	0.0%	0.0%	64.5%	0.0%	0.0%	0.0%	35.5%	0.0%	0.0%				
101-150	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
151-200	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
AQI	JANUARY				FEBRUARY				MARCH				APRIL			
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃
2017-2019	43	130	-	13	44	125	-	19	39	122	-	28	51	121	-	28
AQI	MAY				JUNE				JULY							
	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃	PM ₁₀	PM _{2.5}	NO ₂	O ₃				
2017-2019	37	123	-	27	33	109	-	34	25	82	-	23				

Figure S1. The number of daily confirmed cases and deaths for MERS-CoV in Korea (2015).

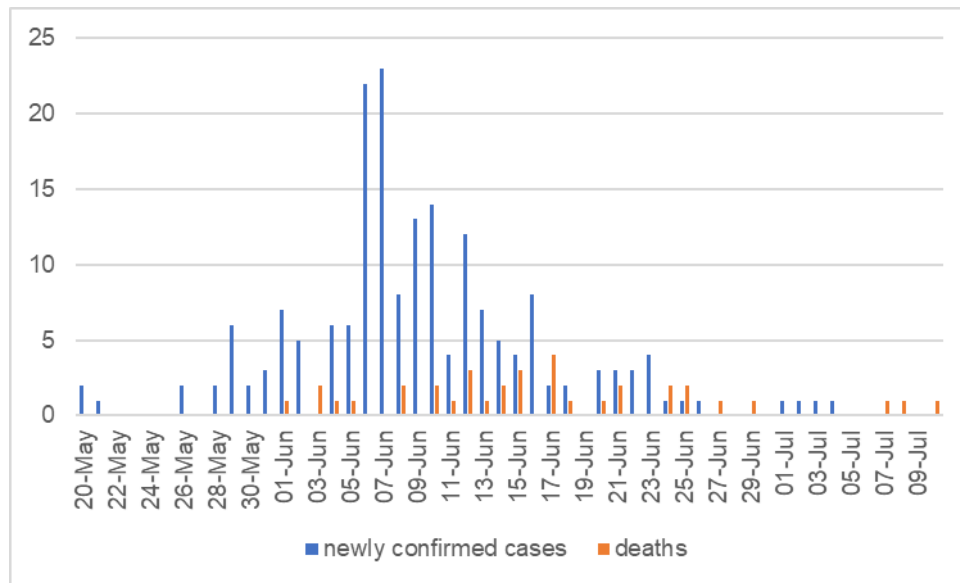


Figure S2. The annual estimated emissions of SO_x in Korea.

