



Supplement of

Joint occurrence of heatwaves and ozone pollution and increased health risks in Beijing, China: role of synoptic weather pattern and urbanization

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Table S1: Analysis of variance of each variable under different weather conditions (HWs, NHWs and precipitation).

T_{max}	Source	SS	df	MS	F	P
	Group	2609.52	2	1304.76	215.27	1.09E-69
	Error	3315.38	547	6.06		
	Total	5924.89	549			
MDA_{8O₃}	Source	SS	df	MS	F	P
	Group	204454.6	2	102227.3	56.32	6.03E-23
	Error	981941.2	541	1815		
	Total	1186396	543			
ER_{HW}	Source	SS	df	MS	F	P
	Group	2614.65	2	1307.33	221.48	3.46E-71
	Error	3228.8	547	5.9		
	Total	5843.45	549			
ER_{ozone}	Source	SS	df	MS	F	P
	Group	353.62	2	176.808	56.4	5.63E-23
	Error	1695.85	541	3.135		
	Total	2049.47	543			
ER_{total}	Source	SS	df	MS	F	P
	Group	4867.9	2	2433.94	207.28	1.69E-67
	Error	6329.2	539	11.74		
	Total	11197.1	541			

Table S2: The Kruskal-Wallis test for figure 5 under different weather conditions (HWs, NHWs and precipitation).

T	Source	SS	df	MS	F	P
	Group	3.45285E+06	2	1726424	145.03	3.21143E-32
	Error	9.23655E+06	531	17394.6		
	Total	1.26894E+07	533			
RH	Source	SS	df	MS	F	P
	Group	1.30882E+06	2	654407.7	73.42	1.13823E-16
	Error	6.90874E+06	459	15051.7		
	Total	8.21756E+06	461			
HI	Source	SS	df	MS	F	P
	Group	1.90775E+06	2	953874.7	107.02	5.75597E-24
	Error	6.30981E+06	459	13746.9		
	Total	8.21756E+06	461			
WS	Source	SS	df	MS	F	P
	Group	544952.7	2	272476.3	30.57	2.29868E-07
	Error	7672602.8	459	16715.9		
	Total	8217555.5	461			
O₃	Source	SS	df	MS	F	P
	Group	1.48979E+06	2	744893.9	82.15	1.4506E-18
	Error	6.94306E+06	463	14995.8		
	Total	8.43285E+06	465			

Table S3: The Kruskal-Wallis test for figure 6 under different stations (urban, suburban, traffic and rural stations).

T	Source	SS	df	MS	F	P
	Group	3.19945E+07	3	10664817.4	85.38	2.14588 E-18
	Error	7.62016E+08	2116	360121		
	Total	7.9401E+08	2119			
NO	Source	SS	df	MS	F	P
	Group	4.8818E+08	3	162726774.5	1032.82	3.59396E-282
	Error	3.0583E+08	2116	15051.7		
	Total	7.9401E+08	2119			
HI	Source	SS	df	MS	F	P
	Group	3.41335E+08	3	113778273.6	910.93	3.76776E-197
	Error	4.52676E+08	2116	213929.9		
	Total	7.9401E+08	2119			

Table S4: Date and weather pattern for 84 HW-O₃ days.

Year	Month	Day	Type
2014	6	28	3
2014	6	29	1
2014	7	9	3
2014	7	13	1
2014	7	17	1
2014	7	18	1
2014	7	19	1
2014	7	24	2
2014	7	25	3
2014	7	26	1
2014	7	27	1
2015	7	10	1
2015	7	12	3
2015	7	13	1
2015	8	8	2
2015	8	9	2
2015	8	10	2
2015	8	11	3
2015	8	12	1
2015	8	15	1
2015	8	16	1
2016	6	18	1
2016	6	19	1
2016	6	20	1
2016	6	25	1
2016	7	8	1
2016	7	9	1
2016	7	10	1
2016	8	2	2
2016	8	3	2
2017	6	13	3
2017	6	14	3
2017	6	15	1
2017	6	16	1
2017	6	17	1
2017	6	18	1
2017	6	19	3
2017	6	28	1
2017	6	29	1
2017	6	30	1
2017	7	8	1
2017	7	9	3

2017	7	10	1
2017	7	11	1
2017	7	12	1
2017	7	13	1
2017	8	4	1
2017	8	5	3
2017	8	7	3
2018	6	4	1
2018	6	5	3
2018	6	18	3
2018	6	20	1
2018	6	25	3
2018	6	26	3
2018	7	3	1
2018	7	5	2
2018	7	27	1
2018	7	28	1
2018	7	29	2
2018	7	30	2
2018	7	31	2
2018	8	1	1
2018	8	2	1
2018	8	3	2
2018	8	4	2
2019	6	21	2
2019	6	22	1
2019	6	23	1
2019	6	24	1
2019	7	1	3
2019	7	2	3
2019	7	3	1
2019	7	11	3
2019	7	12	3
2019	7	13	3
2019	7	14	1
2019	7	23	1
2019	7	24	1
2019	7	25	1
2019	7	26	1
2019	7	27	1
2019	7	30	1
2019	7	31	1
