

Supplementary information

Intensified Exposure to Compound Extreme Heat and Ozone Pollution in Summer across Chinese Cities

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Table S1. Top 30 cities ranked by compound exposure in 2020.

Rank	City	Total Exposure in 2020 (10 ⁶ person-days)	Rank	City	Total Exposure in 2020 (10 ⁶ person-days)
1	Beijing	402.3	16	Ningbo	111.4
2	Guangzhou	344.0	17	Changsha	103.8
3	Shanghai	334.7	18	Xiamen	95.6
4	Chengdu	306.1	19	Nanjing	79.9
5	Foshan	168.5	20	Shijiazhuang	78.9
6	Dongguan	162.4	21	Zhengzhou	76.4
7	Quanzhou	157.0	22	Hefei	70.9
8	Fuzhou	156.4	23	Wuxi	69.8
9	Hangzhou	147.3	24	Ganzhou	69.7
10	Chongqing	142.5	25	Nanchang	64.2
11	Wenzhou	129.9	26	Huizhou	63.8
12	Tianjin	124.9	27	Jinhua	57.4
13	Wuhan	118.7	28	Shaoxing	57.0
14	Suzhou	113.6	29	Putian	55.9
15	Xian	112.0	30	Shenzhen	55.7

Table S2. Top 30 cities ranked by annual rate of increase in compound exposure from 2003 – 2020.

Rank	City	Annual Exposure Increase (10 ⁶ person-days yr ⁻¹)	Rank	City	Annual Exposure Increase (10 ⁶ person-days yr ⁻¹)
1	Beijing	21.71	16	Nanjing	2.56 [†]
2	Chengdu	16.10	17	Ganzhou	2.35
3	Tianjin	7.60	18	Putian	2.29
4	Zhengzhou	7.05	19	Luoyang	2.1
5	Quanzhou	6.12	20	Zhangzhou	2.16
6	Xian	5.88	21	Foshan	2.05 [†]
7	Chongqing	5.85 [†]	22	Handan	1.97
8	Hefei	5.69	23	Shantou	1.78
9	Xiamen	4.49	24	Wuhu	1.69
10	Shijiazhuang	4.37 [†]	25	Wuxi	1.68 [†]
11	Wuhan	4.31 [†]	26	Changzhou	1.66 [†]
12	Changsha	3.59 [†]	27	Changde	1.63
13	Fuzhou	3.01	28	Xianyang	1.51
14	Shenzhen	3.01	29	Anqing	1.48
15	Baoding	2.62	30	Nanchong	1.41

All data points are significant at $p < 0.05$, unless otherwise indicated. [†] not significant.

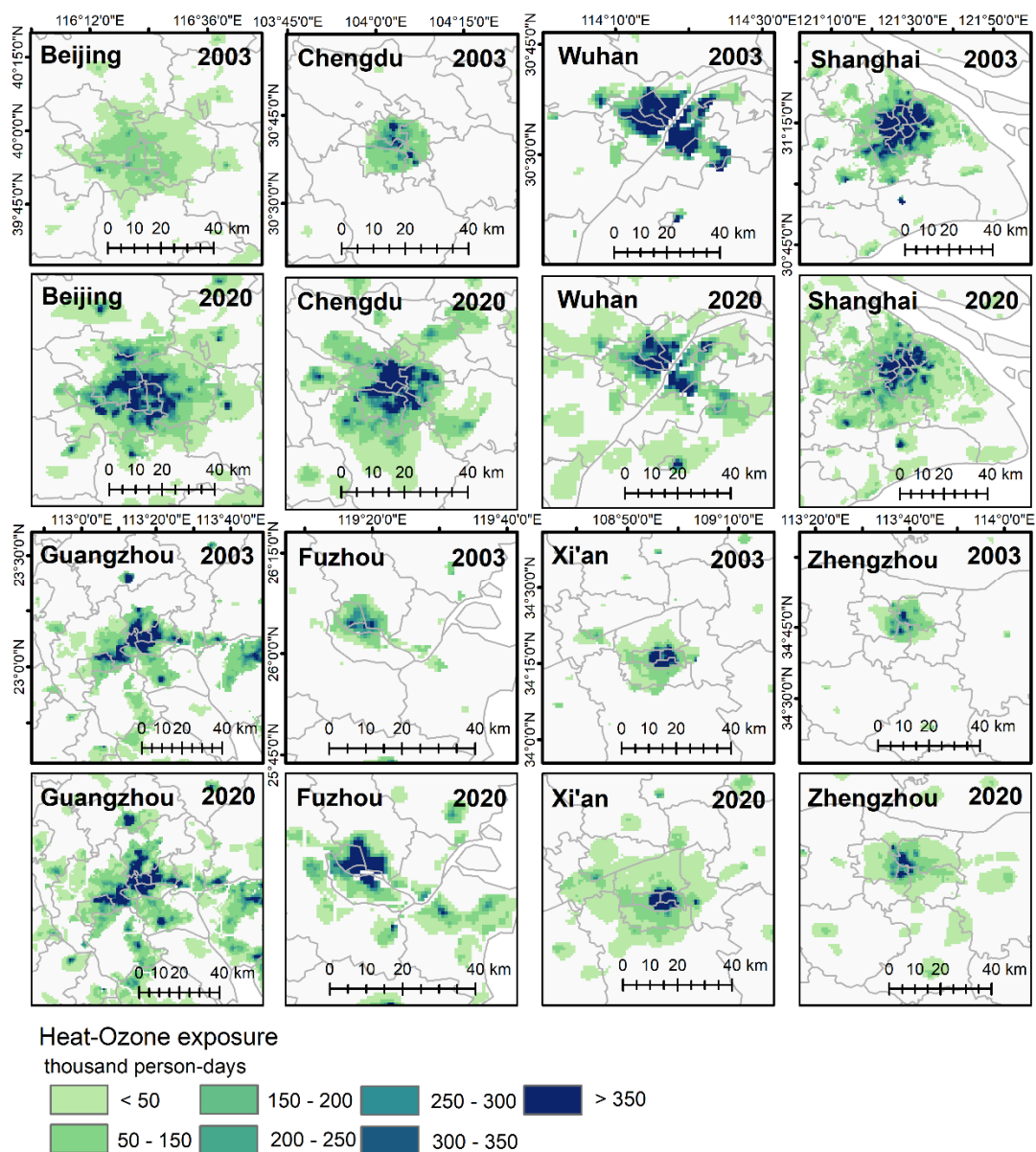


Fig. S1. Spatial patterns of compound exposure across major cities in different regions of China in 2003 and 2020. Beijing (capital city), Chengdu (Southwest), Wuhan (Central), Shanghai (East Coast), Guangzhou (South Coast), Fuzhou (Southeast Coast, capital of Fujian Province), Xi'an (Northwest), and Zhengzhou (North China Plain).

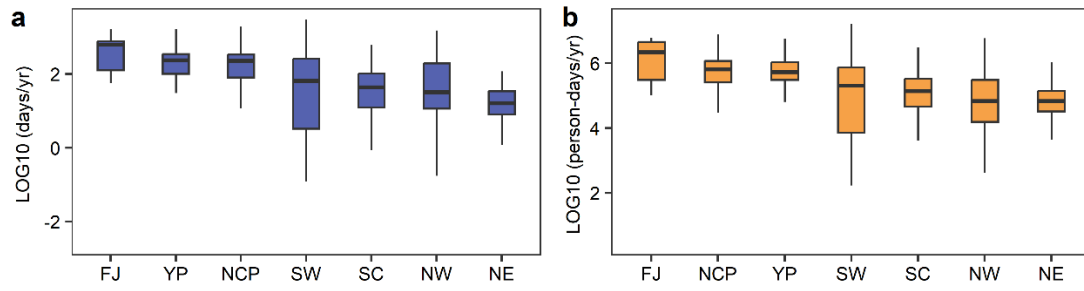


Fig. S2. The rate of increase in the number of days with compound extreme heat and ozone pollution events across regions in China (a), and the growth rate of compound exposure person-days (b). Box plots represent the interquartile range (IQR) as the box, median as a horizontal line within the box. Cities with negative exposure growth rates have been removed. Northeast (NE), Fujian (FJ), North China Plain (NCP), Southwest (SW), Northwest (NW), Yangtze Plain (YP) and South China (SC).