

Long-term impacts of diurnal temperature range on mortality and cardiovascular disease: A nationwide prospective cohort study

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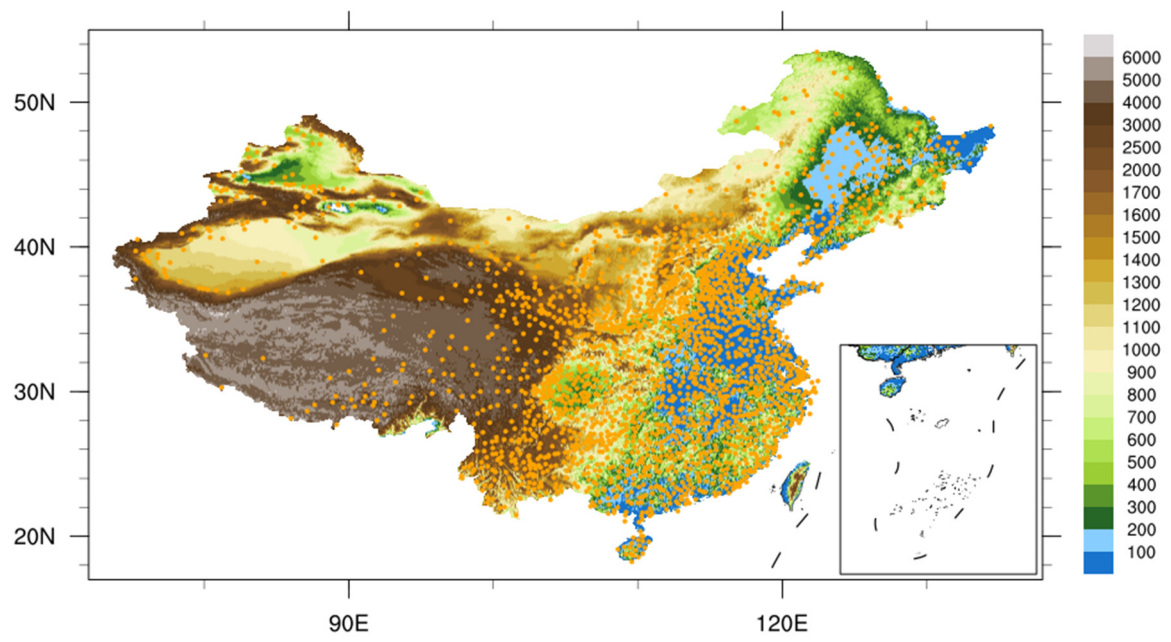


Figure S1. Geographical distributions of ~2419 meteorological stations in China (yellow dots), superimposed on the elevation (shading; m). Inset: South China Sea.

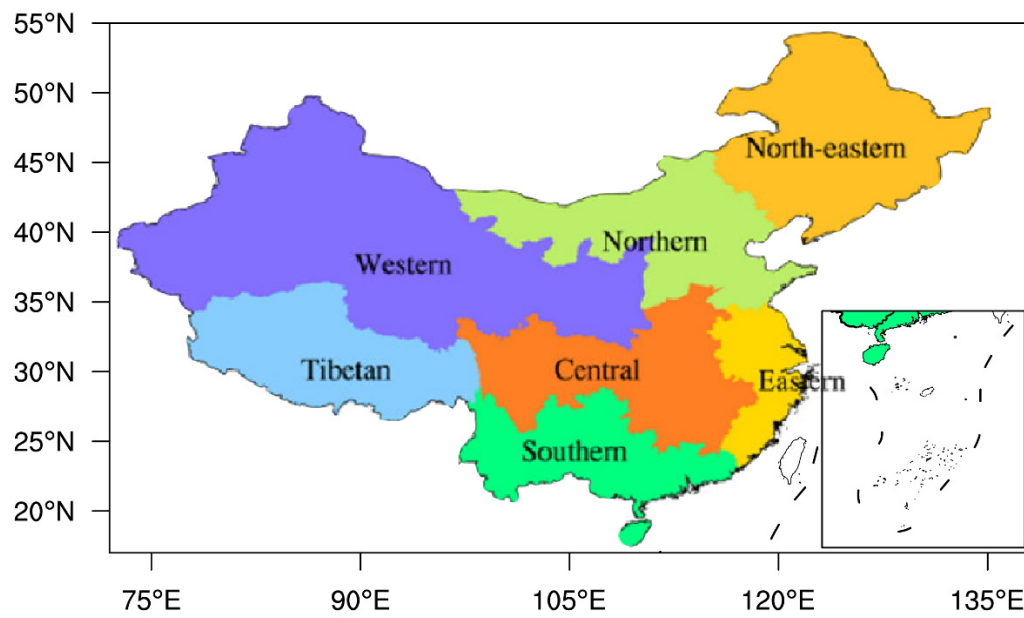


Figure S2. The zoning map of seven geographical areas in China.

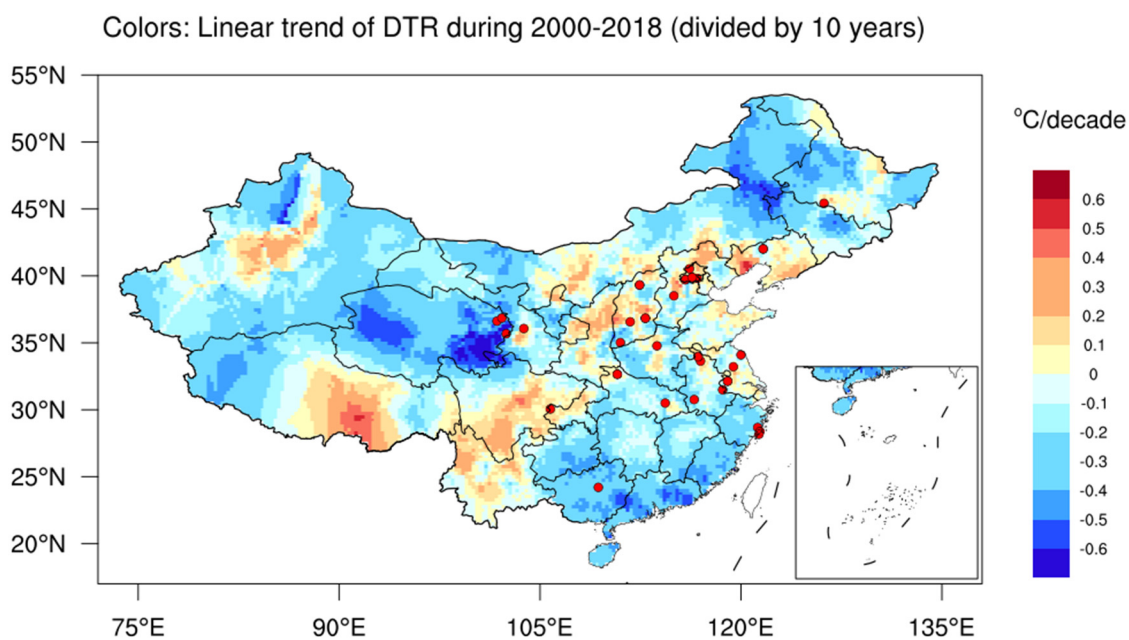


Figure S3. Same as Figure 2, but colors for the linear trend of DTR ($^{\circ}\text{C}/\text{decade}$) from 2000–2018 (divided by 10 years) in China. Inset: South China Sea.

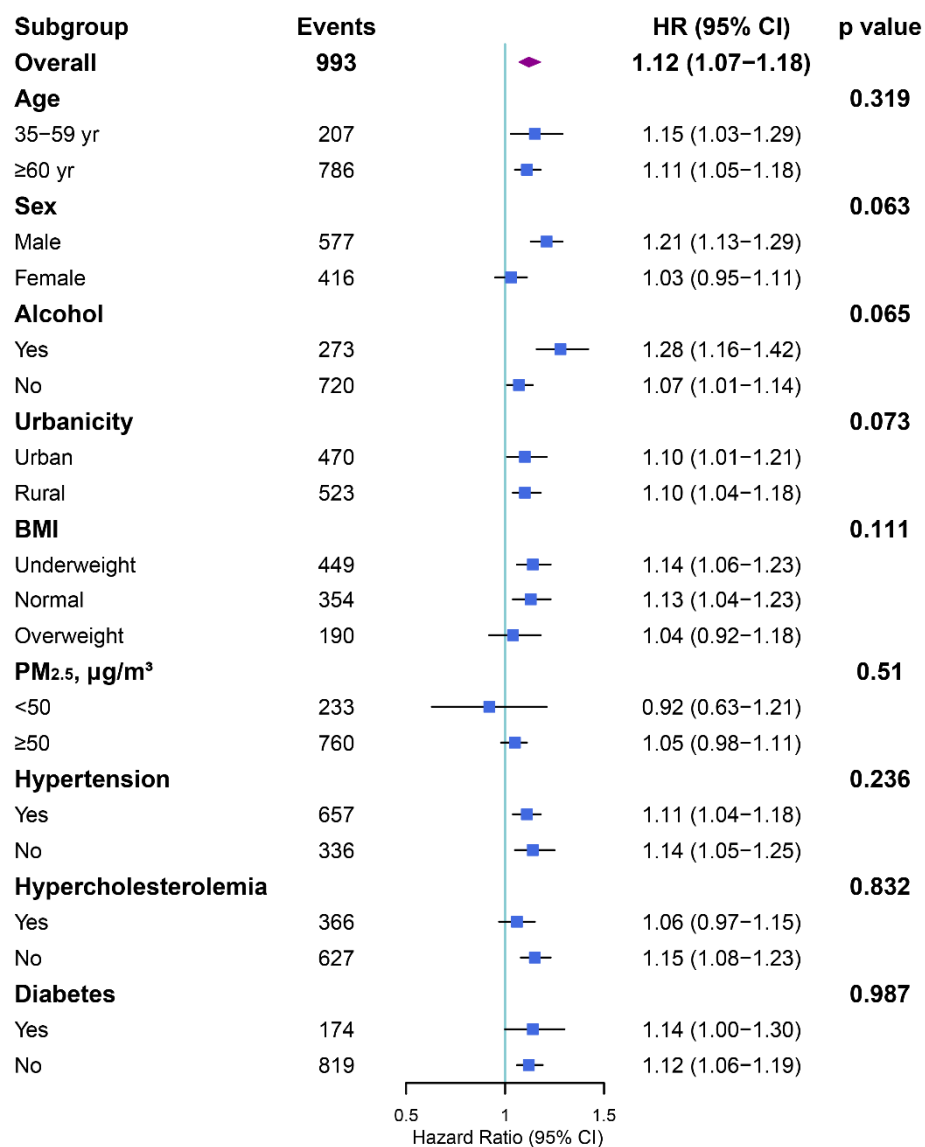


Figure S4. Same as Figure 4, but for CVD.

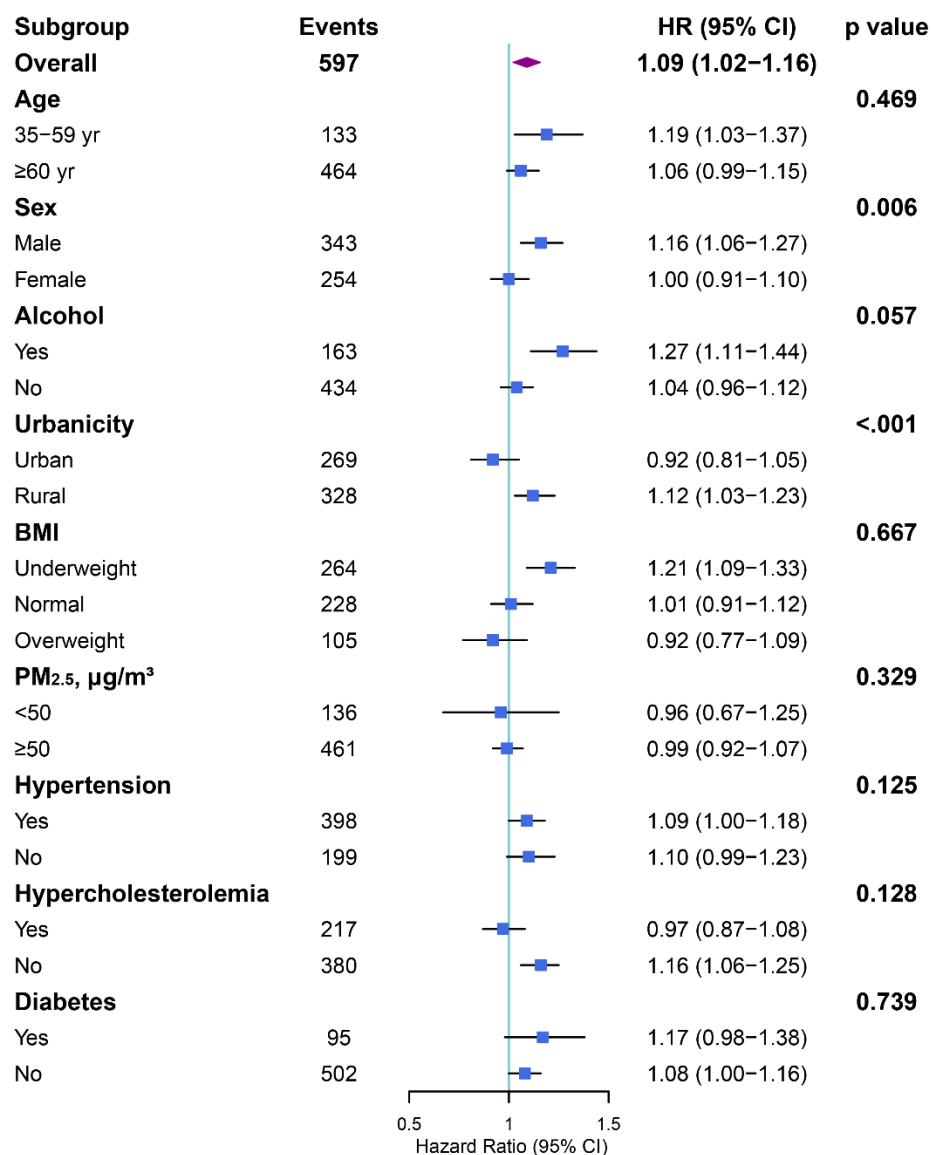


Figure S5. Same as Figure 4, but for stroke.

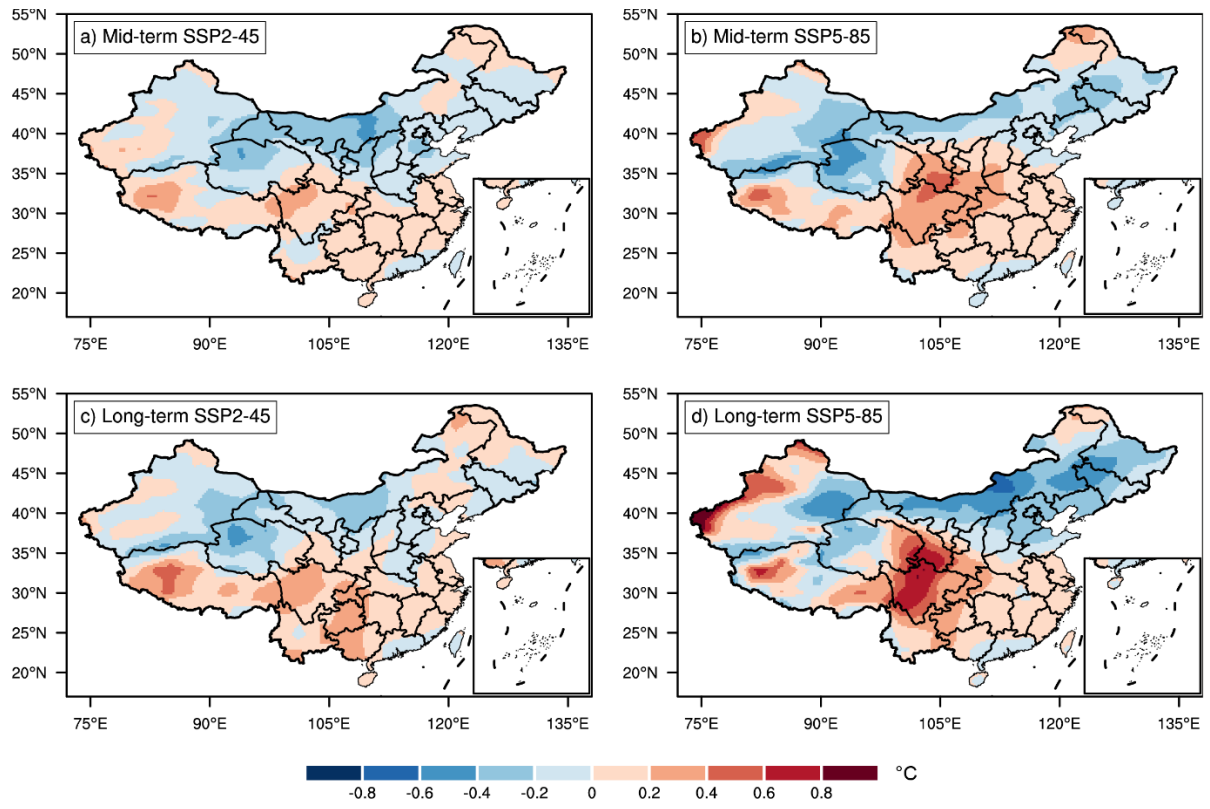


Figure S6. Same as Figure 5, but for warm season DTR changes.

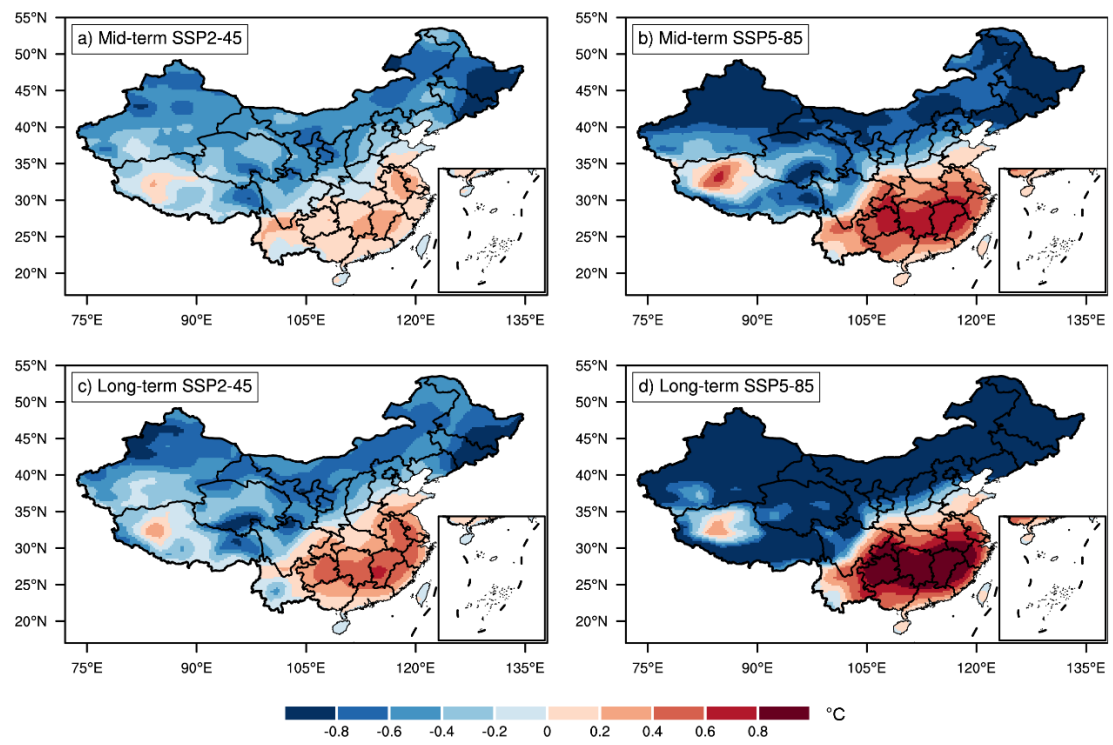


Figure S7. Same as Figure 5, but for cold season DTR changes.

Table S1. Details of 31 global climate models employed in the present study for future projection.

Model	Realization	Atmospheric Resolution		Institute/Region
		Latitude	Longitude	
ACCESS-CM2	rlilplfl	1.25°	1.875°	CSIRO–BOM/Australia
ACCESS-ESM1-5	rlilplfl	1.24°	1.875°	
BCC-CSM2-MR	rlilplfl	1.125°	1.125°	BCC-CMA/China
CMCC-CM2-SR5	rlilplfl	0.94°	1.25°	CMCC/Italy
CMCC-ESM2	rlilplfl	0.94°	1.25°	
CNRM-CM6-1	rlilplf2	1.4°	1.4°	CNRM-CERFACS/France
CNRM-ESM2-1	rlilplf2	1.4°	1.4°	
CanESM5	rlilplfl	2.81°	2.81°	CCCma/Canada
EC-Earth3	rlilplfl	0.7°	0.7°	EC-Earth-Consortium
EC-Earth3-Veg-LR	rlilplfl	1.125°	1.125°	
FGOALS-g3	r3ilplfl	2.25°	2°	LASG-CES/China
GFDL-CM4	rlilplfl	1°	1.25°	NOAA-GFDL/United States
GFDL-ESM4	rlilplfl	1°	1.25°	
GISS-E2-1-G	rlilplf2	2°	2.5°	NASA-GISS/United States
HadGEM3-GC31-LL	rlilplf3	1.25°	1.875°	MOHC/United Kingdom
HadGEM3-GC31-MM	rlilplf3	0.56°	0.83°	
INM-CM4-8	rlilplfl	1.5°	2°	INM/Russia
INM-CM5-0	rlilplfl	1.5°	2°	
IPSL-CM6A-LR	rlilplfl	1.26°	2.5°	IPSL/France
KACE-1-0-G	rlilplfl	1.25°	1.875°	NIMS-KMA/Korea
KIOST-ESM	rlilplfl	1.875°	1.875°	KIOST/South Korea
MIROC-ES2L	rlilplf2	2.81°	2.81°	MIROC/Japan
MIROC6	rlilplfl	1.4°	1.4°	
MPI-ESM1-2-HR	rlilplfl	0.94°	0.94°	MPI /Germany
MPI-ESM1-2-LR	rlilplfl	1.875°	1.875°	
MRI-ESM2-0	rlilplfl	1.125°	1.125°	MRI/Japan
NESM3	rlilplfl	1.875°	1.875°	NUIST/China

NorESM2-LM	rlilplf1	1.875°	2.5°	NCC-NMI/Norway
NorESM2-MM	rlilplf1	0.94°	1.25°	
TaiESM1	rlilplf1	0.94°	1.25°	RCEC-AS/China-Taiwan
UKESM1-0-LL	rlilplf2	1.25°	1.875°	MOHC/United Kingdom

Table S2. The climatological (2000–2018) annual mean temperature and humidity characteristics in the seven geographical areas of China.

Areas	DTR (°C)	maximum Ta (°C)	Minimum Ta (°C)	Relative humidity (%)
The whole China	11.68	13.66	1.99	57.77
Northeastern China	12.23	9.24	-2.99	62.97
Northern China	12.27	15.18	2.91	50.70
Central China	9.31	18.65	9.35	72.65
Eastern China	8.44	21.53	13.09	75.43
Southern China	8.87	22.78	13.91	76.44
Western China	13.18	11.56	-1.62	49.07
Tibetan Plateau	13.33	6.54	-6.79	41.58

Table S3. Sensitivity analyses for hazard ratios (95% CIs) of all-cause mortality, CVD, and stroke associated with a 1 °C increase in annual average DTR exposure.

Models	All-cause mortality	Fatal or nonfatal CVD	Fatal or nonfatal stroke
raw	1.13 (1.08–1.18)	1.12 (1.07–1.18)	1.09 (1.02–1.16)
1) January	1.09 (1.06–1.13)	1.13 (1.08–1.18)	1.15 (1.09–1.21)
2) February	1.06 (1.03–1.09)	1.07 (1.04–1.11)	1.04 (1.00–1.09)
3) March	1.08 (1.04–1.12)	1.08 (1.03–1.12)	1.05 (1.00–1.11)
4) April	1.06 (1.03–1.10)	1.06 (1.02–1.10)	1.04 (0.99–1.09)
5) May	1.14 (1.10–1.18)	1.12 (1.08–1.17)	1.10 (1.05–1.16)
6) June	1.11 (1.06–1.16)	1.11 (1.06–1.17)	1.06 (1.00–1.13)
7) July	1.11 (1.05–1.17)	1.11 (1.04–1.18)	1.10 (1.01–1.19)
8) August	1.06 (1.02–1.11)	1.04 (0.99–1.09)	0.97 (0.91–1.03)
9) September	1.09 (1.05–1.13)	1.07 (1.03–1.12)	1.04 (0.98–1.09)
10) October	1.14 (1.09–1.19)	1.14 (1.08–1.19)	1.11 (1.04–1.18)
11) November	1.11 (1.06–1.15)	1.06 (1.01–1.11)	1.05 (0.99–1.12)
12) December	1.16 (1.11–1.22)	1.12 (1.06–1.18)	1.13 (1.05–1.22)
13) Warm season	1.11 (1.06–1.17)	1.10 (1.04–1.16)	1.04 (0.97–1.12)
14) Cold season	1.12 (1.08–1.16)	1.11 (1.06–1.15)	1.09 (1.03–1.15)
15) Transitional season	1.13 (1.08–1.18)	1.12 (1.06–1.17)	1.09 (1.03–1.16)
16) Excluding subjects	1.13 (1.08–1.19)	1.12 (1.06–1.18)	1.08 (1.01–1.16)
17) DTR mean during follow-up	1.14 (1.09–1.19)	1.13 (1.08–1.19)	1.10 (1.03–1.17)
18) Residential mobility	1.11 (1.04–1.18)	1.10 (1.04–1.17)	1.08 (1.01–1.15)
19) Model 4 + NDVI	1.14 (1.08–1.20)	1.15 (1.09–1.22)	1.09 (1.01–1.18)
20) Model 4 + relative humidity	1.17 (1.11–1.24)	1.16 (1.09–1.23)	1.12 (1.03–1.22)

Abbreviations: CVD, cardiovascular disease; DTR, diurnal temperature range; NDVI, normalized difference vegetation index.

Text S1. List of the China Hypertension Survey Investigators.

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