Supplementary materials

Text S1: the extreme heat wave interpolation models of EHW_{125d}、EHW_{125n}、EHW_{135d} and EHW_{135n}

①The multiple linear regression equation of EHW_{125d} was:

$$EHW_{125d} = 306.554 + 0.136 \times \text{urbanland} - 0.389 \times \text{dem} + 0.006 \times \text{pop}$$

Where, urbanland refers to the area of urban land in the buffer zone with a width of 46km centered on the grid point

②The multiple linear regression equation of EHW_{125n} was:

$$EHW_{125n} = 221.085 + 0.898 \times \text{urbanland} - 0.318 \times \text{dem}$$

Where, urbanland refers to the area of urban land in the buffer zone with a width of 20km centered on the grid point

③The multiple linear regression equation of EHW_{135d} was：

$$EHW_{135d} = 563.548 + 0.123 \times \text{urbanland} - 0.708 \times \text{dem}$$

Where, urbanland refers to the area of urban land in the buffer zone with a width of 52km centered on the grid point.

④The multiple linear regression equation of EHW_{135n} was：

$$EHW_{135n} = 856.854 + 0.801 \times \text{urbanland} - 0.740 \times \text{dem} - 0.068 \times \text{grassland}$$

Where, urban land refers to the area of urban land in the buffer zone with a width of 9km centered on the grid point, and grassland refers to the area of grassland in the buffer zone with a width of 74km centered on the grid point.