

Supplementary information

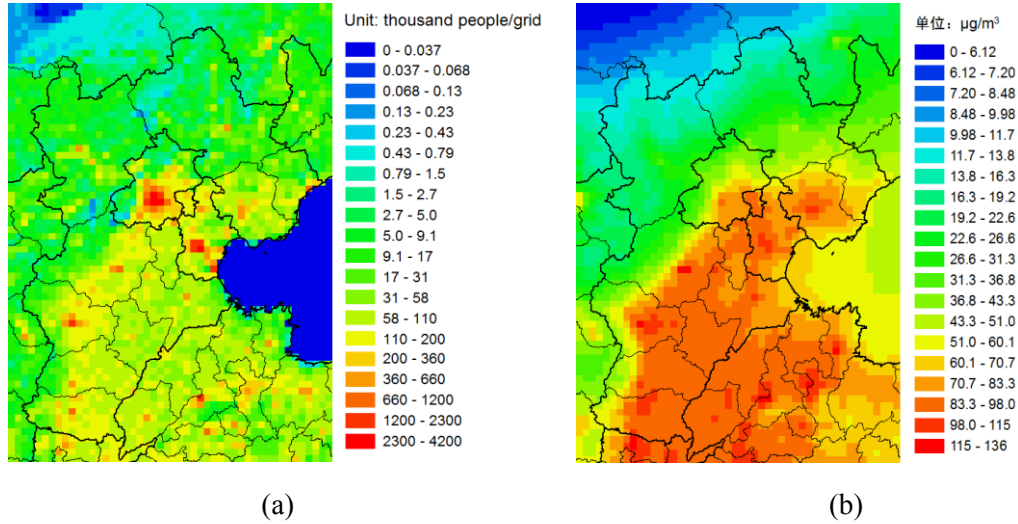


Fig. S1 Spatial distribution of population (a) and annual average PM_{2.5} concentrations (b) in 2014 in the BTH region (with a grid resolution of 12 km×12 km).

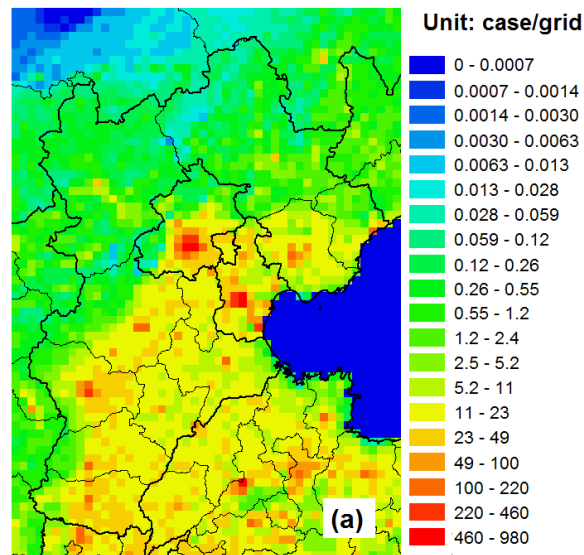


Fig. S2 Spatial distribution of all-cause mortality due to short-term exposure to PM_{2.5} in the BTH region.

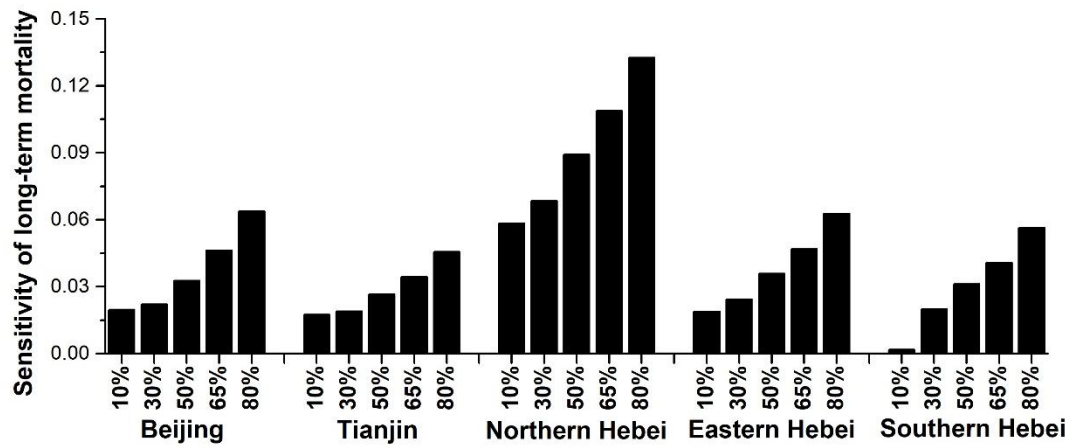


Fig. S3 Sensitivity of annual mean mortality due to long-term exposure to $PM_{2.5}$ to stepped control of NO_x emissions in the whole China. The X-axis shows the reduction ratio ($= 1 - \text{emission ratio}$). The Y-axis shows the sensitivity of health effect, as defined by Eq. 3.