Supplementary materials

Contribution of Regional $PM_{2.5}$ Transport to Air Pollution Enhanced by Sub-Basin Topography: A Modeling Case over Central China

Weiyang Hu [1], Tianliang Zhao [1,*], Yongqing Bai [2,*], Lijuan Shen [1], Xiaoyun Sun [1], and Yao Gu [1]

1 Climate and Weather Disasters Collaborative Innovation Center, Key Laboratory for Aerosol-Cloud-Precipitation of China Meteorological Administration, PREMIC, Nanjing University of Information Science &Technology, Nanjing 210044, China; wyhu_aca@126.com (W.H.); 20181103046@nuist.edu.cn (L.S.); sunxy6362@126.com (X.S.); guyao@nuist.edu.cn (Y.G.)

2 Institute of Heavy Rain, China Meteorological Administration, Wuhan 430205, China

* Correspondence: tlzhao@nuist.edu.cn (T.Z.) and baiyq2007@126.com (Y.B.)

Table 1. $PM_{2.5}$ change and terrain contribution based on the E1 and E3 simulations.

Areas	Western Cities	Eastern Cities	Average
$PM_{2.5}$ in real terrain (μg m^{-3})	145.5	99.7	122.6
$PM_{2.5}$ in changed terrain (μg m^{-3})	128.0	104.3	116.2
Terrain contribution (%)	*12.0*	*-4.6*	*5.2*

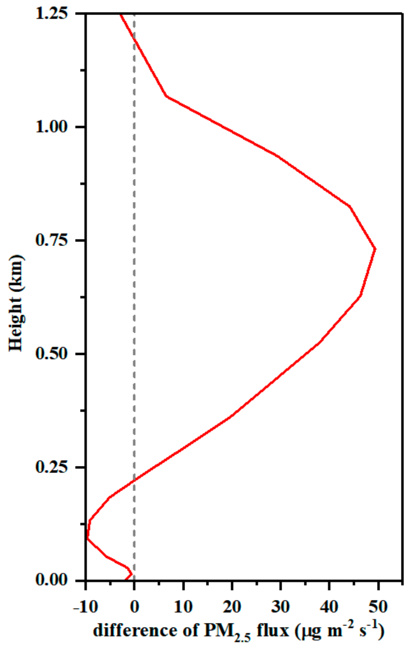

Figure S1. Vertical distribution of difference of $PM_{2.5}$ flux averaged over the THB during the air pollution event in real terrain and changed terrain simulations.

Table S2. Terrain contribution to regional transport of $PM_{2.5}$ and local pollution.

Areas	Terrain Contribution to RT (%)	Terrain Contribution to LP (%)
Western cities	48.6	-58.1
Eastern cities	29.0	-55.9
Average	*39.1*	*-57.0*

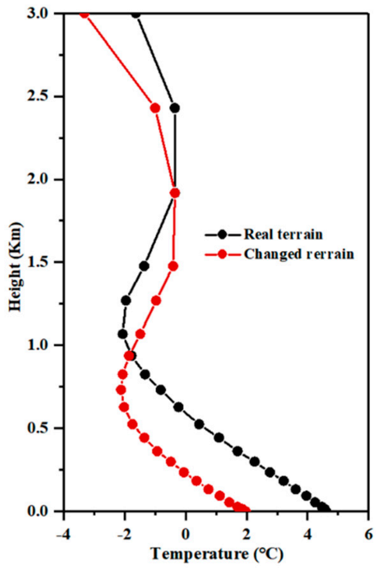

Figure S2. Vertical distribution of temperature averaged over the THB during the air pollution event in real terrain (E1; black dotted line) and changed terrain (E3; red dotted line) simulations.