

Supporting information

Increased inorganic aerosol fraction contributes to air pollution and haze in China

Y. H. Wang^{1,2}, Y.S. Wang^{1,6}, L.L. Wang¹, T. Petäjä^{2,3}, Q. Z. Zha², C.S. Gong⁴, S. X. Li⁷, B. Hu¹, J. Y. Xin¹ and M. Kulmala^{2,3,5}

¹State Key Laboratory of Atmospheric Boundary Layer Physics and Atmospheric Chemistry (LAPC), Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing 100029, China

²Institute for Atmospheric and Earth System Research / Physics, Faculty of Science, P.O.Box 64, 00014 University of Helsinki, Helsinki, Finland

³Joint international research Laboratory of Atmospheric and Earth System sciences (JirLATEST), Nanjing University, Nanjing, China

⁴Institute of Arid meteorology, China Meteorological Administration, Lanzhou 730000, China

⁵Aerosol and Haze Laboratory, Beijing Advanced Innovation Center for Soft Matter Science and Engineering, Beijing University of Chemical Technology (BUCT), Beijing, China

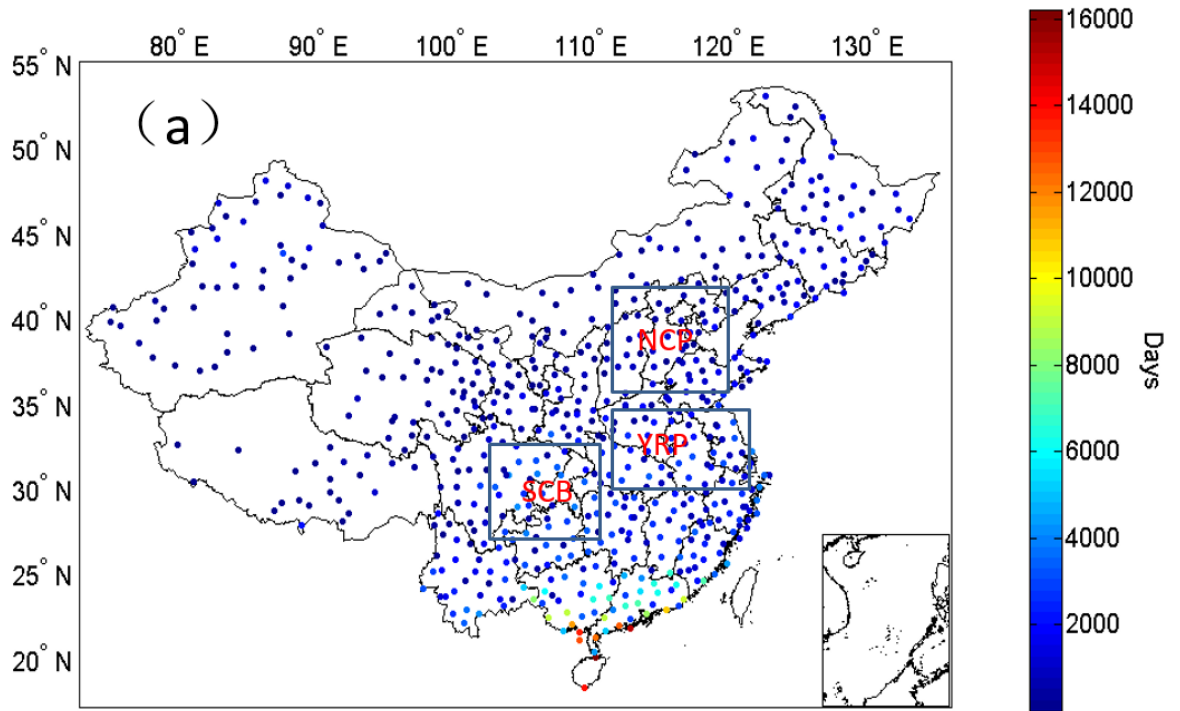
⁶Centre for Excellence in Atmospheric Urban Environment, Institute of Urban Environment, Chinese Academy of Science, Xiamen, Fujian 361021, China

⁷State Key Laboratory of Numerical Modeling for Atmospheric Sciences and
Geophysical Fluid Dynamics (LASG), Institute of Atmospheric Physics, Chinese
Academy of Sciences, Beijing 100029, China

Submitted to: Atmospheric Chemistry and Physics

Corresponding authors: Y.S. Wang, L.L.Wang and M. Kulmala

E-mail: wys@mail.iap.ac.cn; wll@mail.iap.ac.cn; markku.kulmala@helsinki.fi



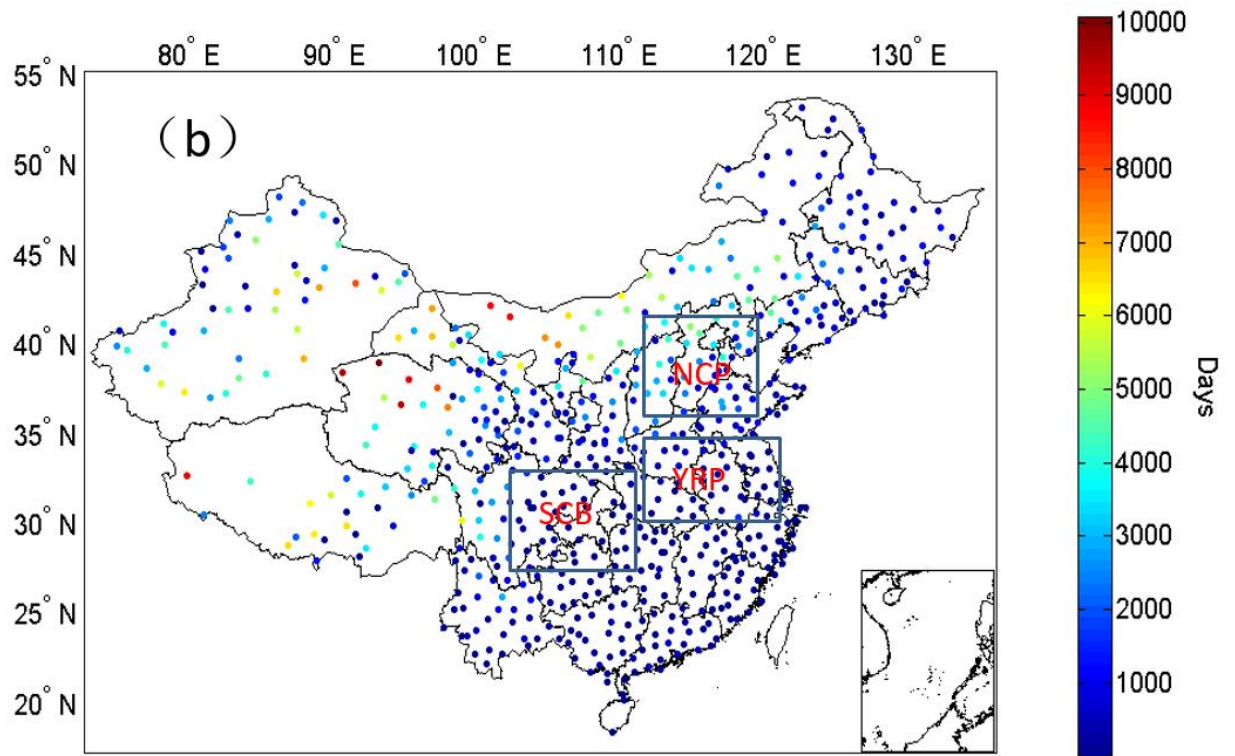


Figure s1. The distribution of (a) high relative humidity days (80%~90%) and (b) low relative humidity days (<40%) from 1980-2010.

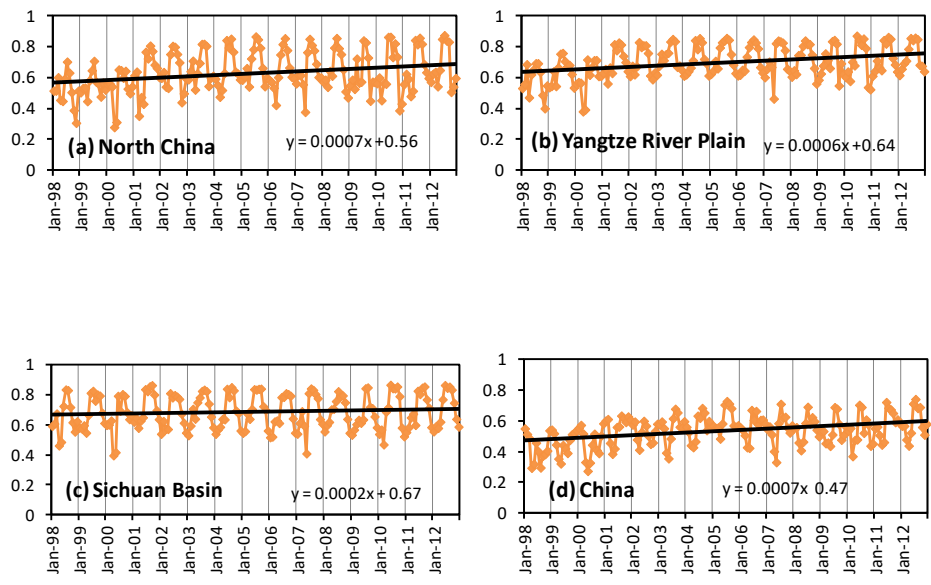


Figure s2. Trends of modeled inorganic aerosol fraction over China from the year 1998 to 2012

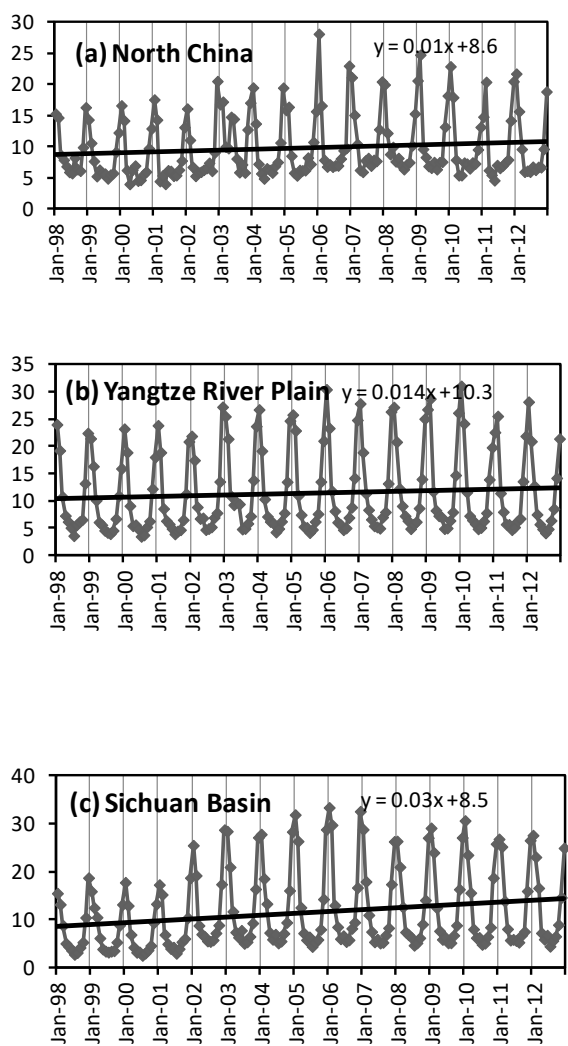


Figure s3. Trends of modeled carbonaceous aerosol concentrations over China from the year 1998 to 2012 ($\mu\text{g m}^{-3}$)