Support Information

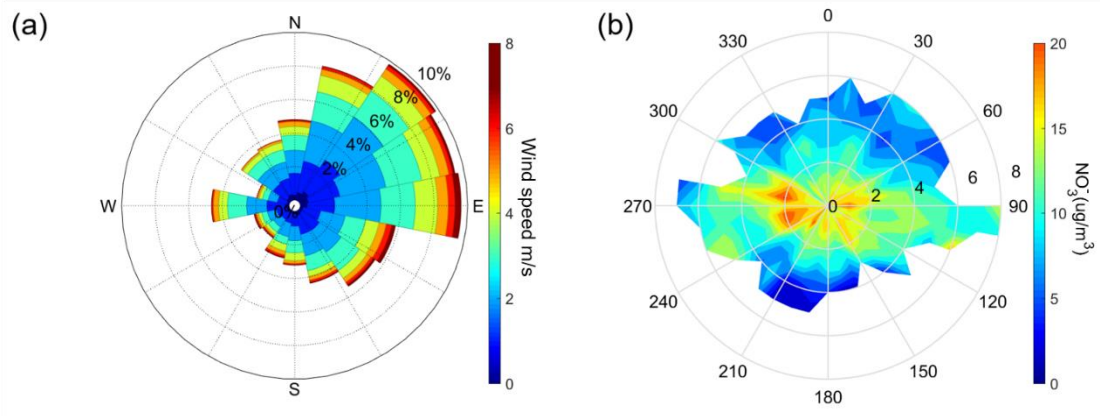

Figure S1 (a) Wind rose plot, color-coded by wind speed (m/s). **(b)** Wind rose plot, color-coded by the median nitrate mass concentrations at corresponding wind speed and wind direction.

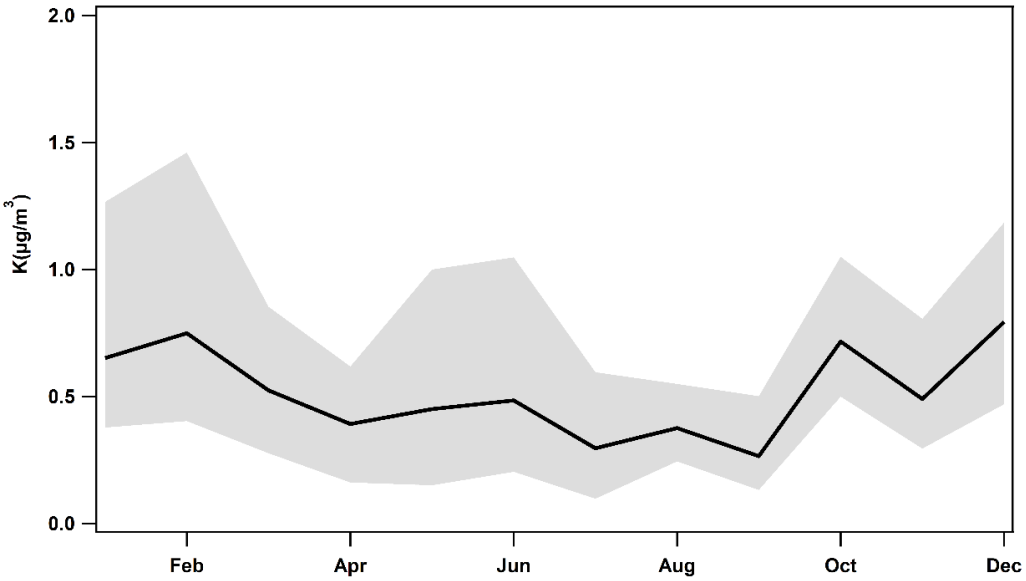

Figure S2 Monthly variation of potassium. Bold solid lines are the median values and thin solid lines represent percentiles of 75% and 25%.

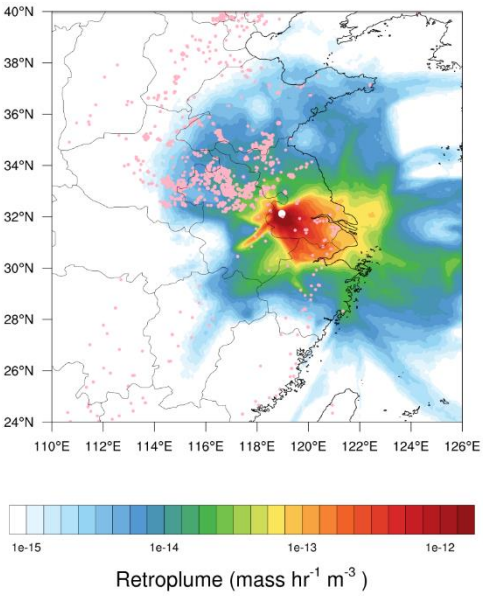

Figure S3 The averaged retroplumes (i.e., 100 m footprint) for the Top 25% nitrate concentrations in summer 2014 together with the fire spots during the same time. Pink points indicate the fire spots.

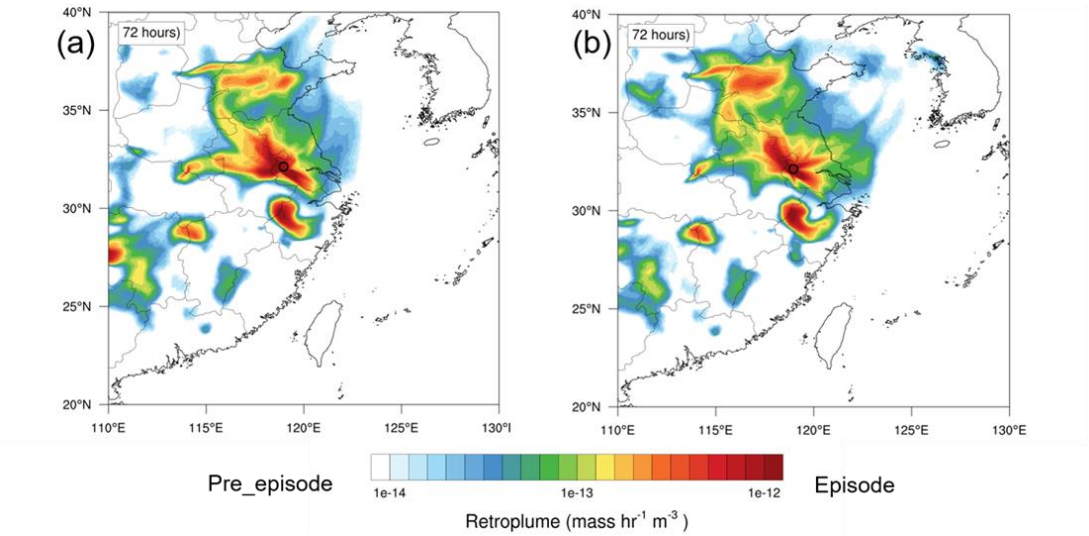

Figure S4 Averaged retroplume of air masses at Nanjing for the period of **(a)** pre-episode days and **(b)** episode days of nitrate pollution.