

Figure 1. Model domain used in this study and the geographic locations of Beijing-Tianjin-Hebei (BTH), Northeast China (NEC), Yangtze River Delta (YRD), Pearl River Delta (PRD), Sichuan Basin (SCB), Central China (CNC) and Shandong Province (SDP). The location of observation data was also shown in the model domain.

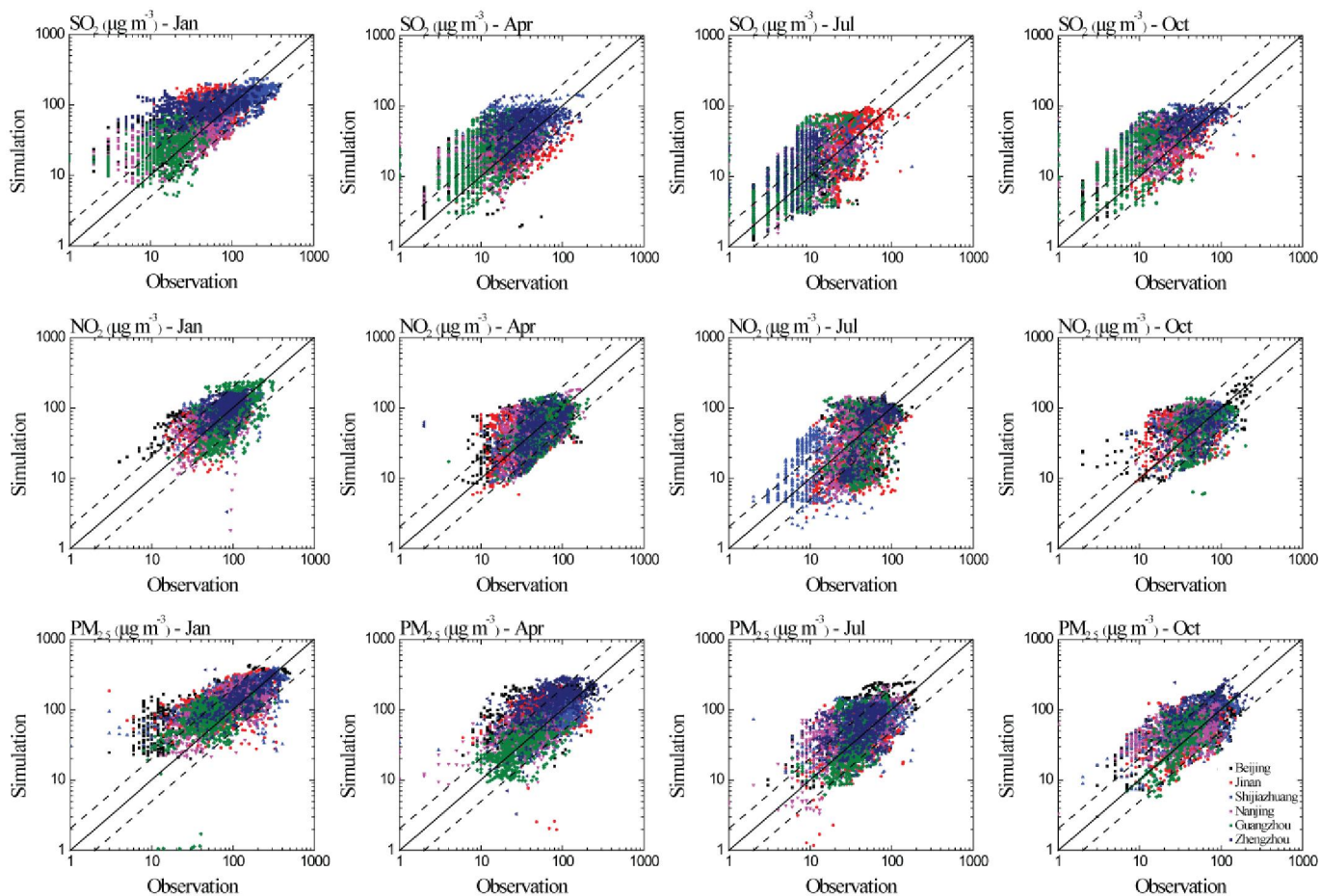


Figure 2. The scatter plots between the modeled and the observed hourly SO₂, NO₂, and PM_{2.5} in January, April, July and October 2015. The solid lines are 1:1 and the dashed lines are 2:1 or 1:2.

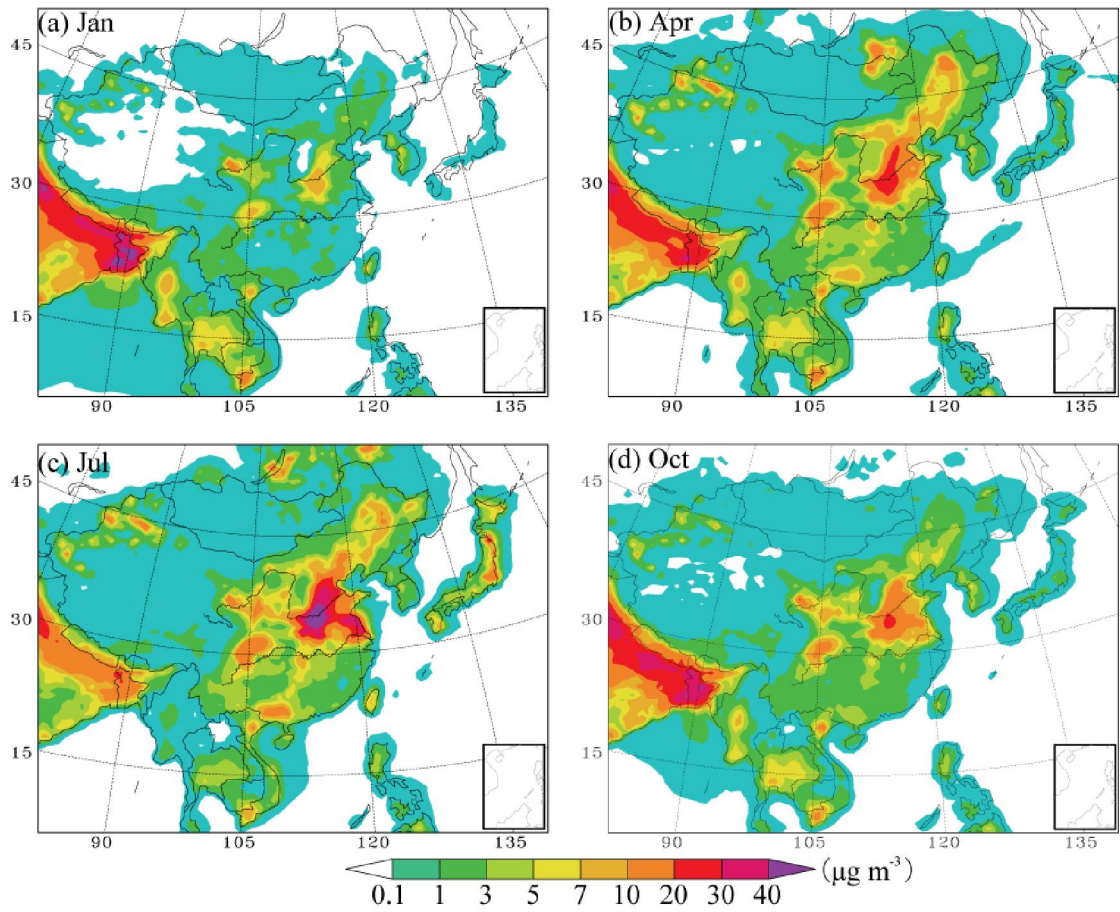


Figure 3. The horizontal distributions of the modeled monthly NH_3 mass concentration in January, April, July, and October in 2015.

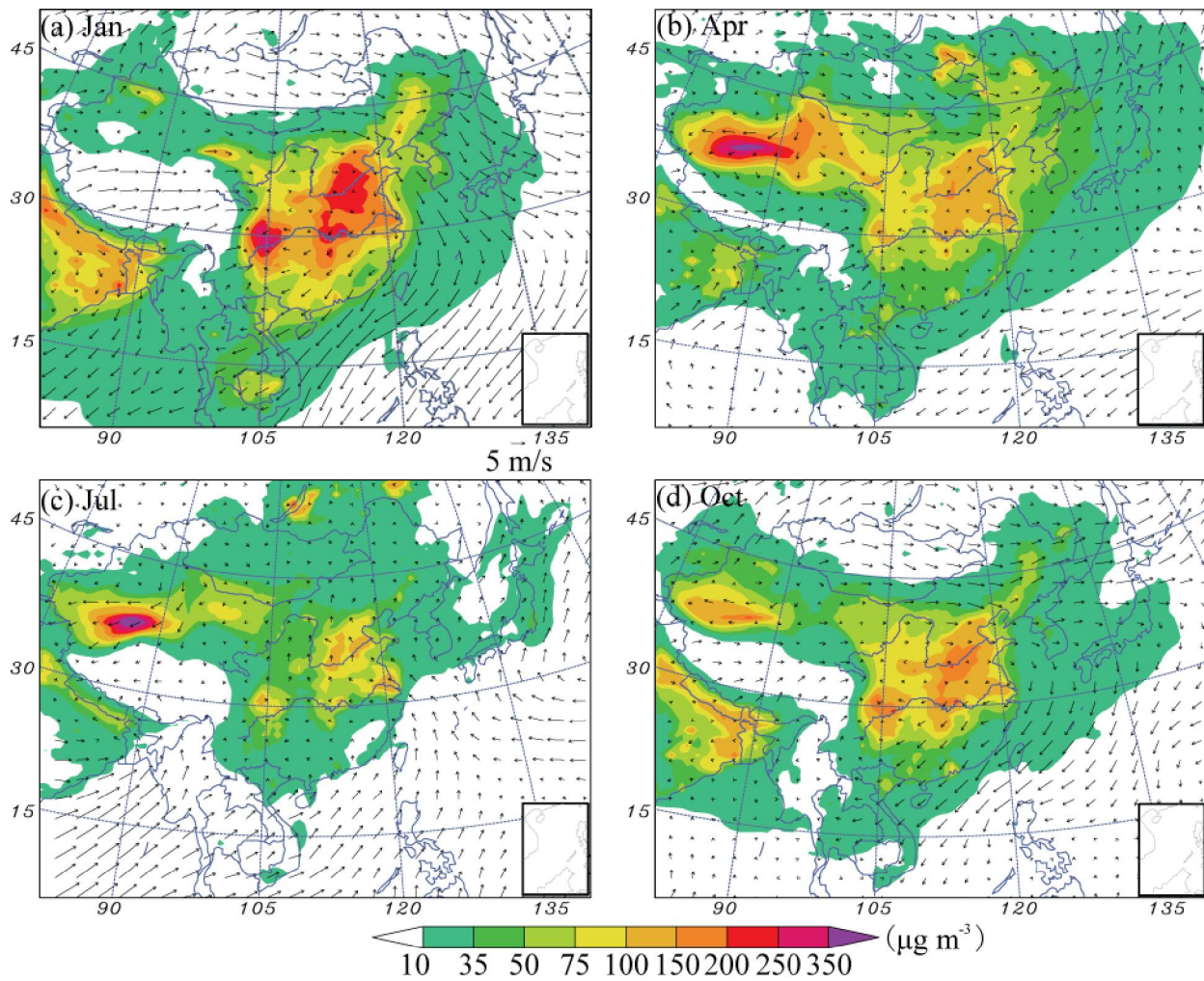


Figure 4. The horizontal distributions of the modeled monthly PM_{2.5} mass concentration in January, April, July, and October in 2015. Also shown are the surface wind field.

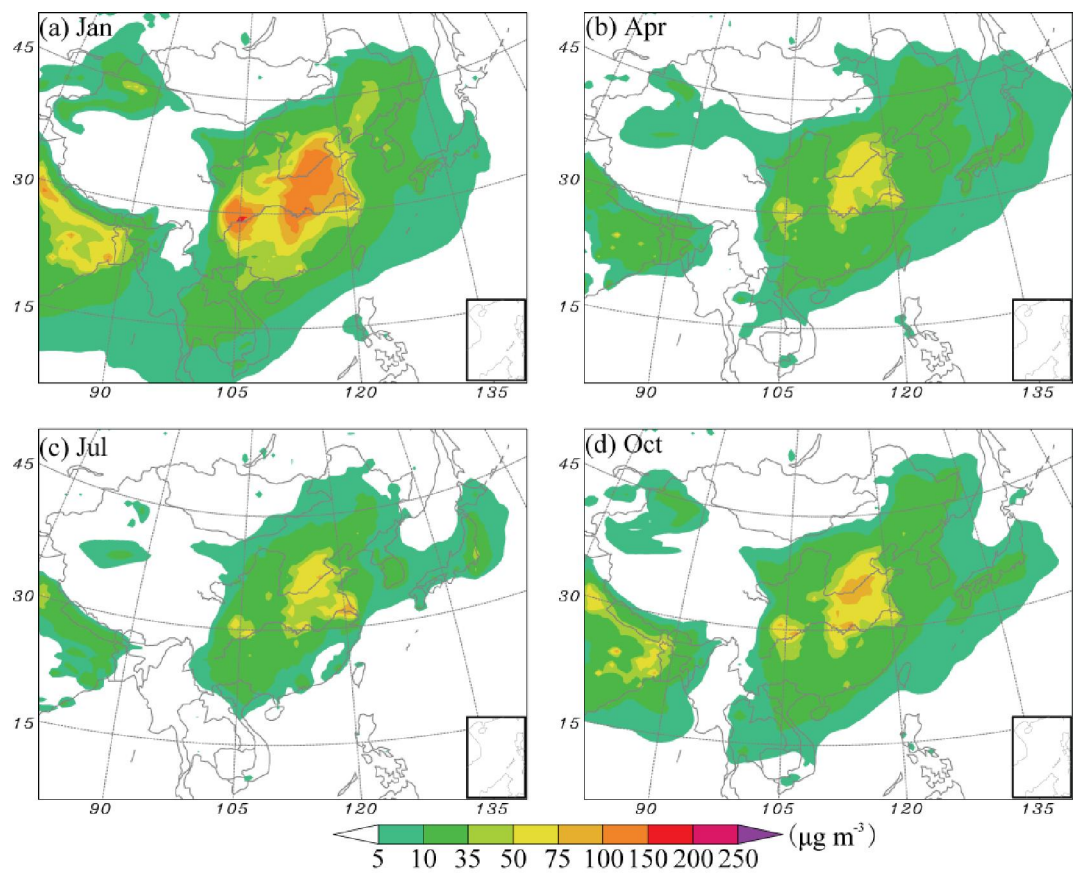


Figure 5. The horizontal distributions of the modeled monthly SNA mass concentration in January, April, July, and October in 2015.

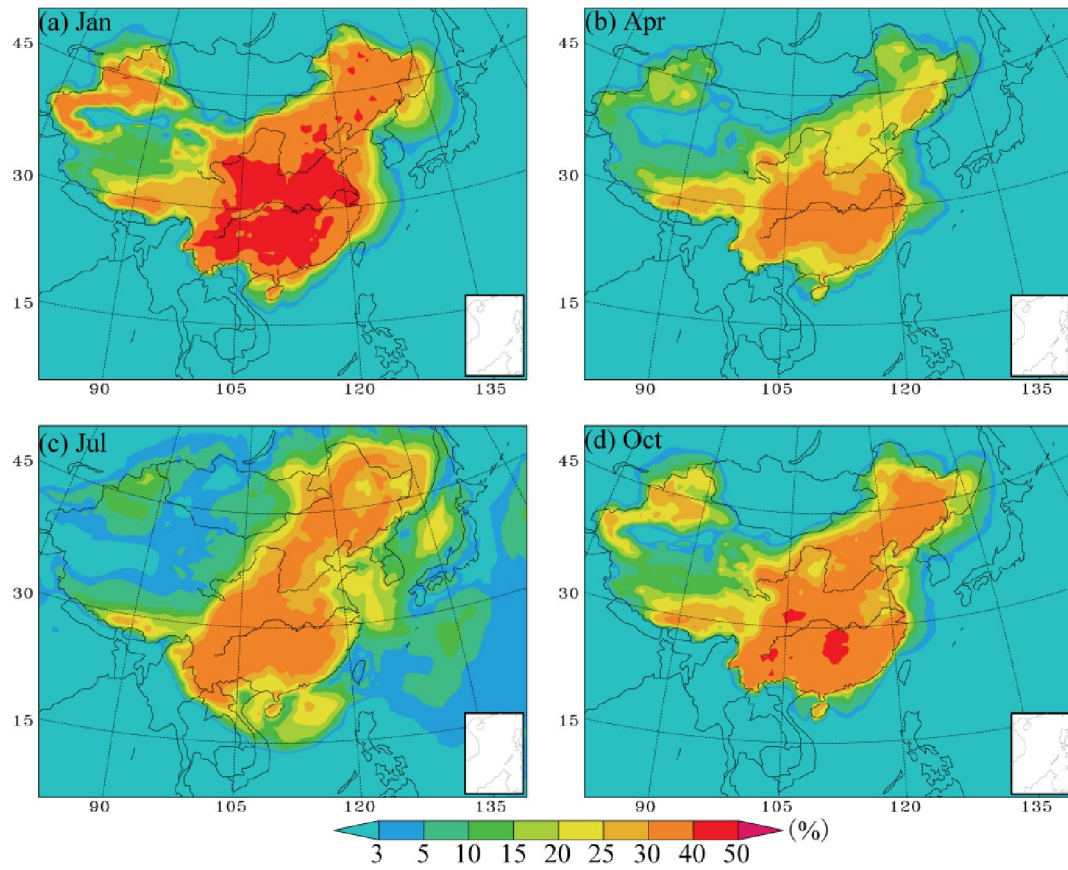


Figure 6. The horizontal distributions of the contribution percentage of NH_3 emissions to SNA mass concentration (%) in January, April, July and October.

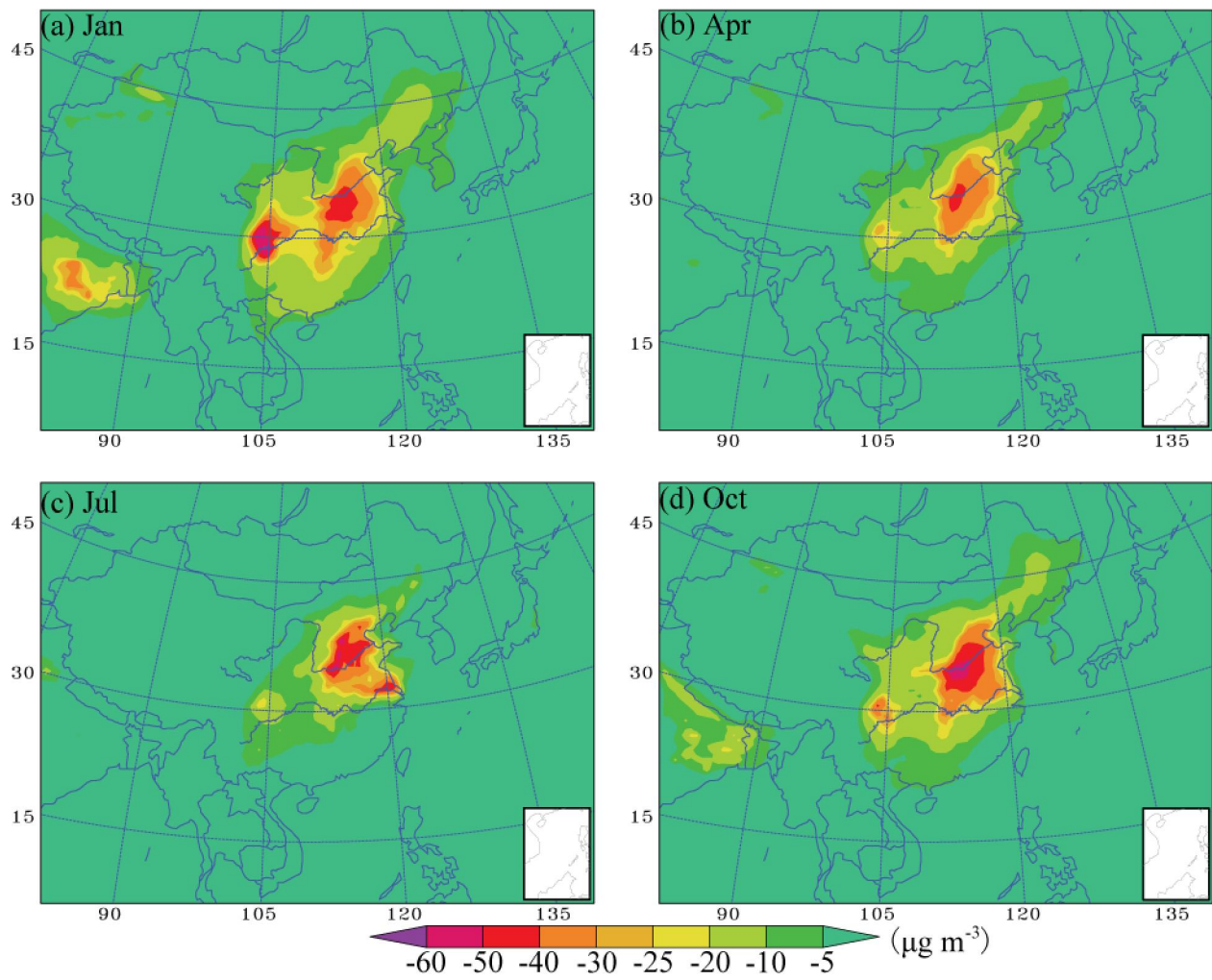


Figure 7. The horizontal distributions of SNA mass concentration ($\mu\text{g m}^{-3}$) variation associated with agriculture NH_3 removal in January, April, July and October.

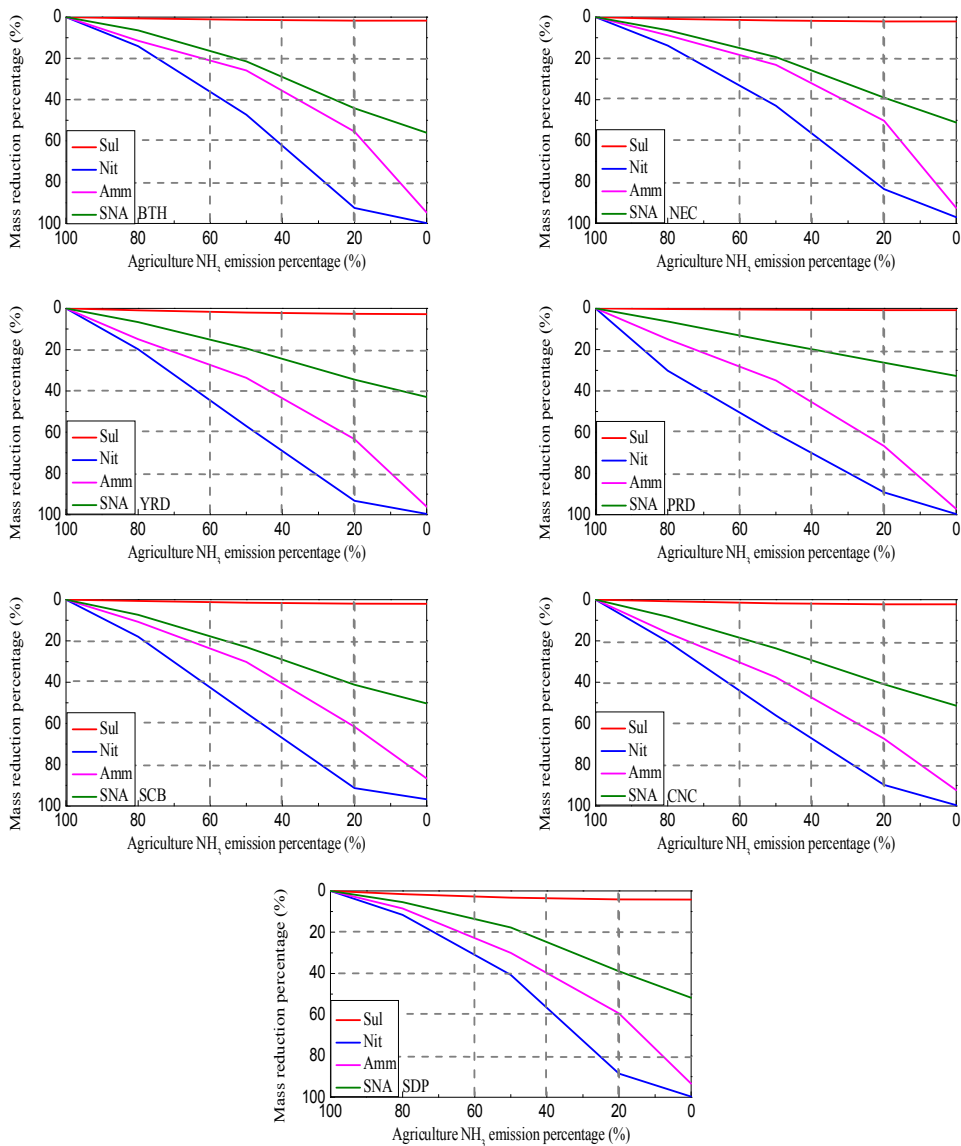


Figure 8. The variation (%) of sulfate, nitrate, ammonium, and SNA mass burden associated with the NH₃ emission reduction (%).

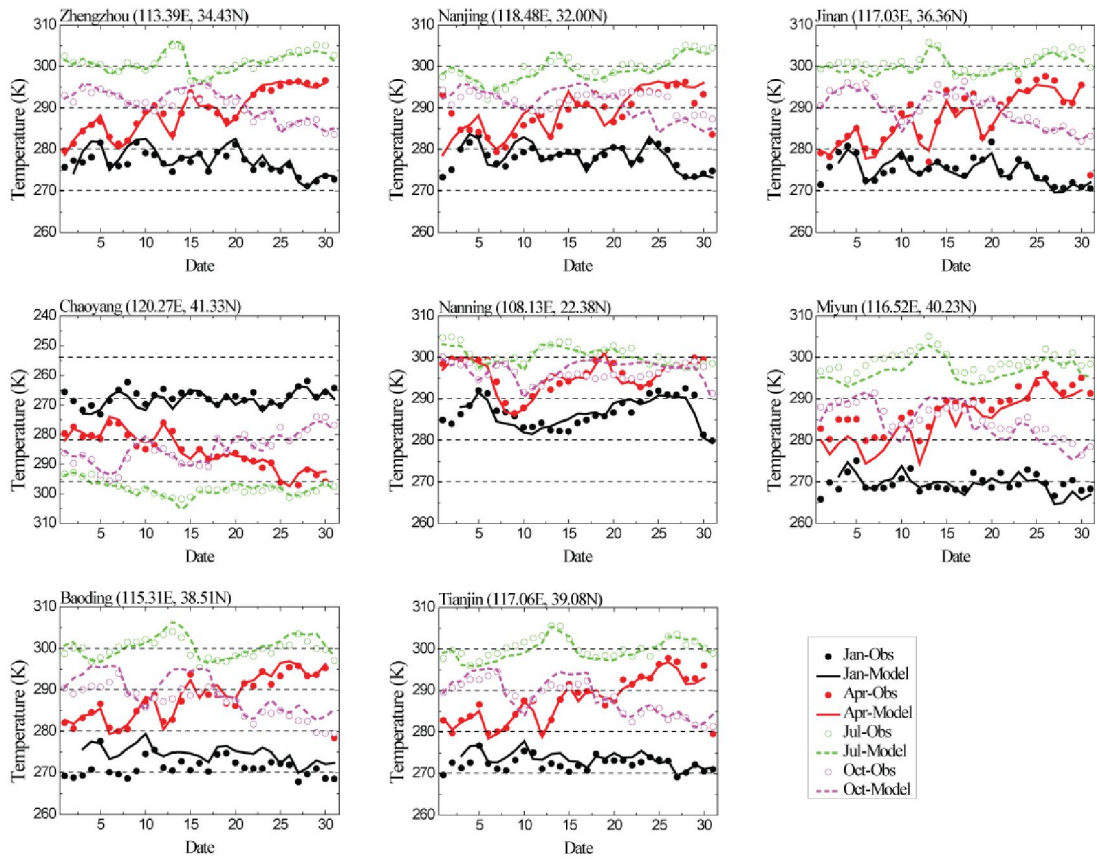


Figure A1. Observed and modeled daily average temperatures (K) in January, April, July and October 2015.

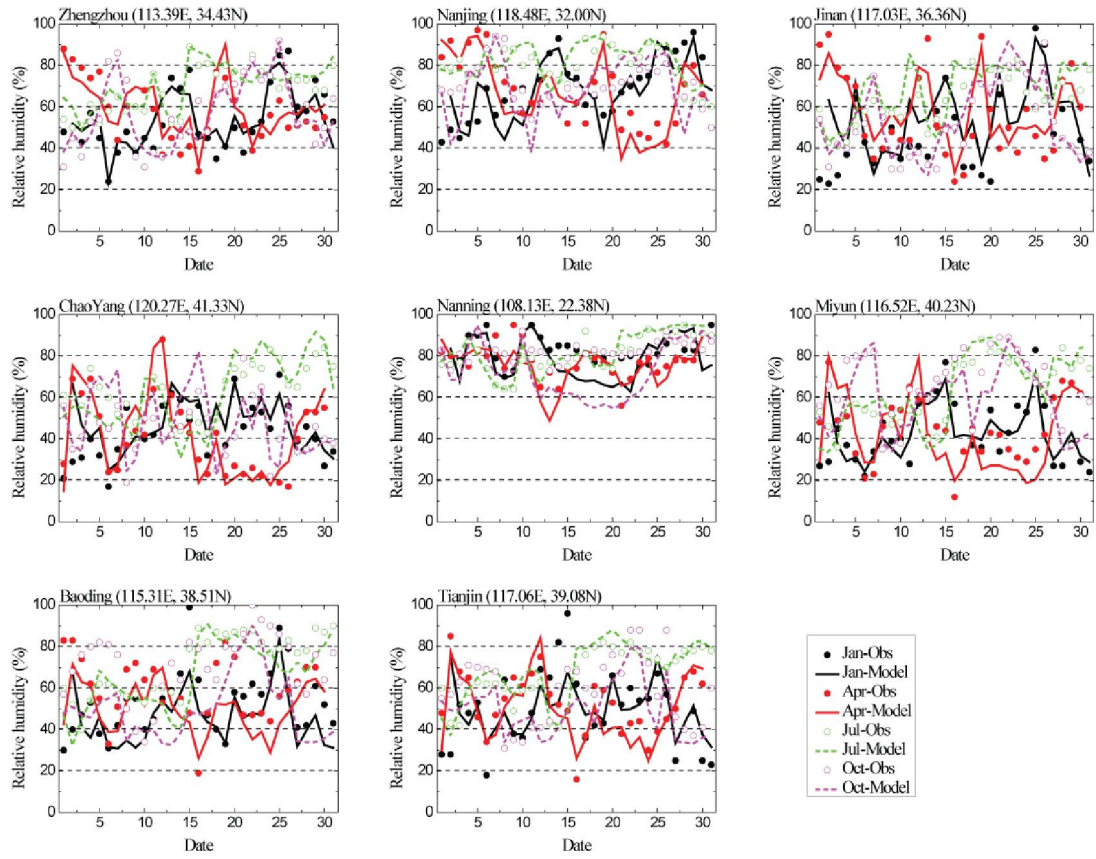


Figure A2. Same as Figure A1 but for relative humidity (%)

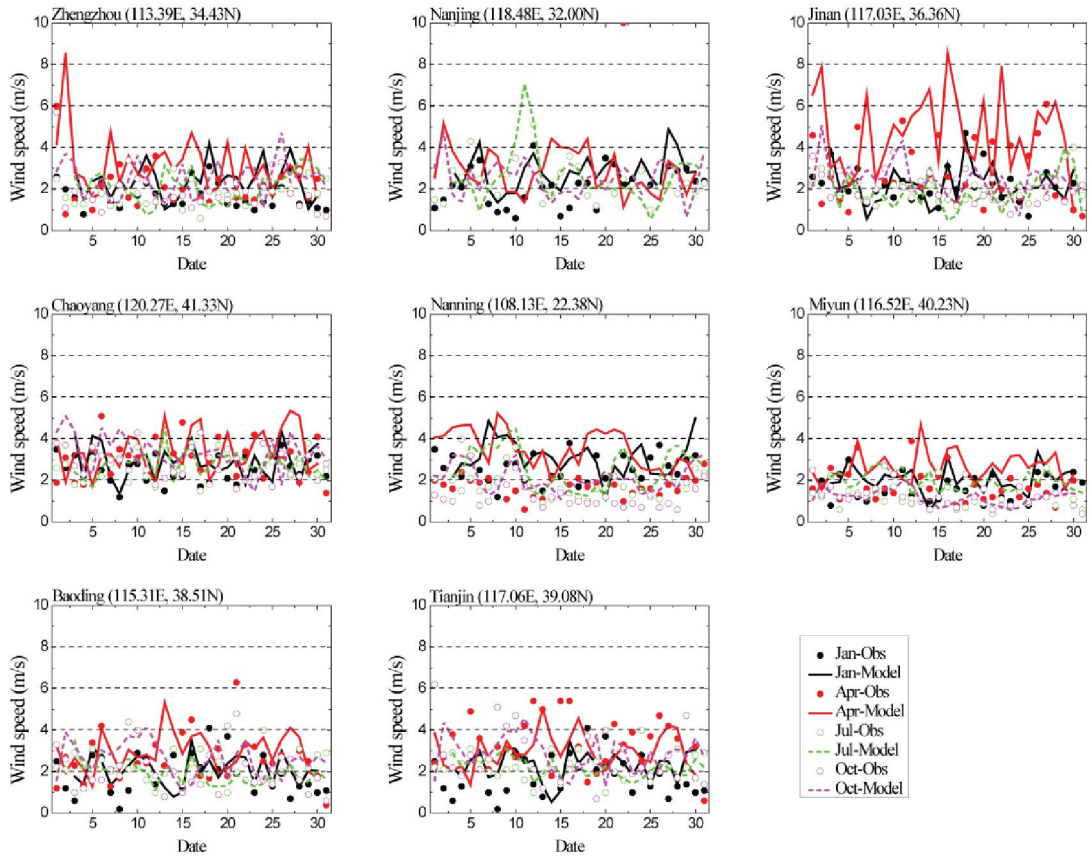


Figure A3. Same as Figure A1 but for wind speed (m s^{-1})

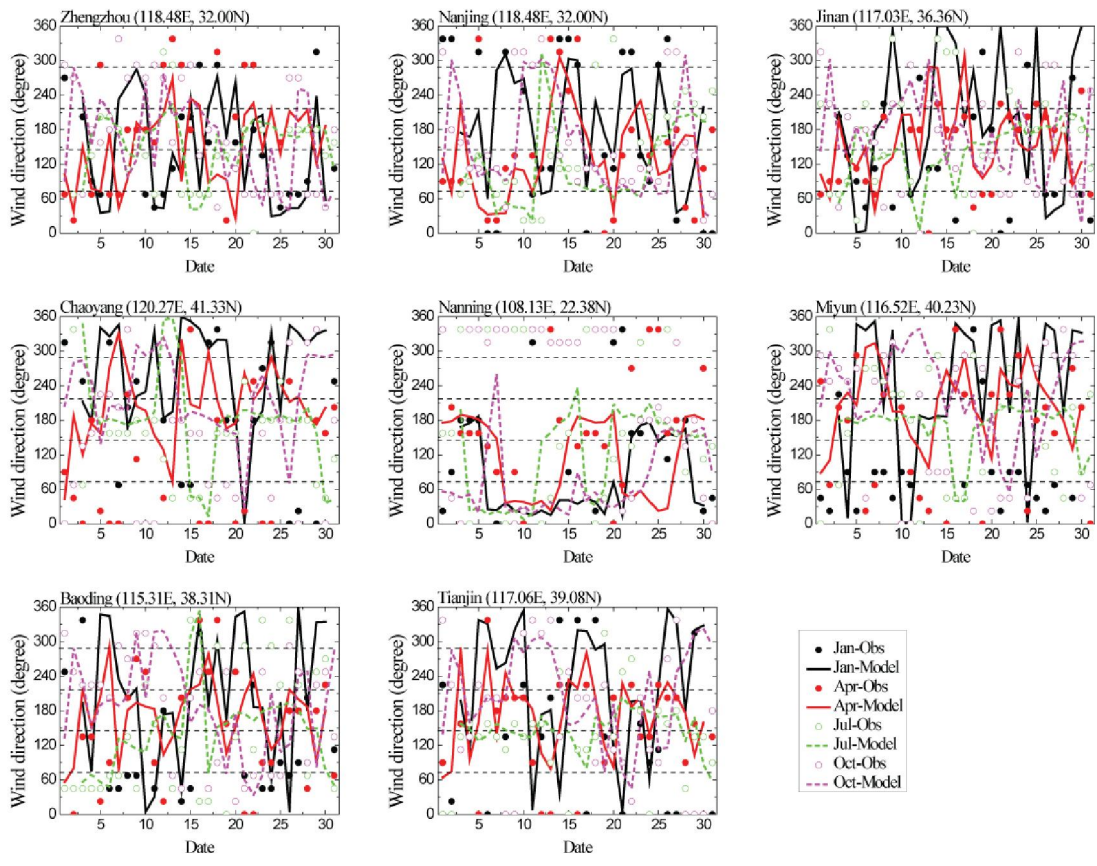


Figure A4. Same as Figure A1 but for daily maximum wind direction (degree)

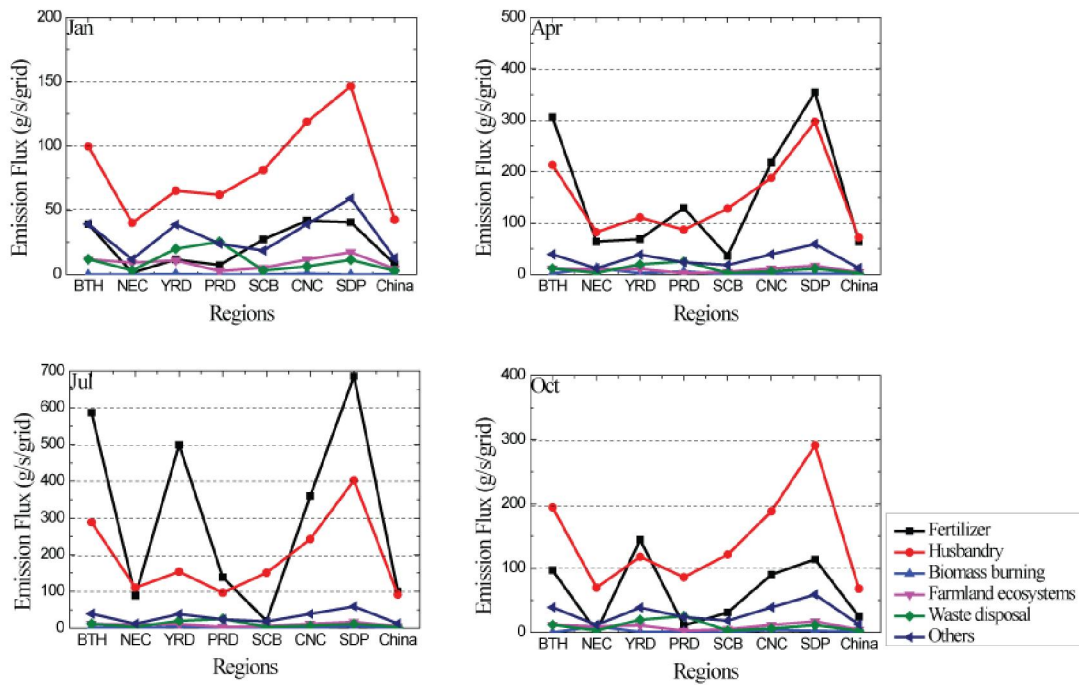


Figure A5. The regional average NH₃ emission flux (g/s/grid) of different agriculture sectors over each region in January, April, July and October.

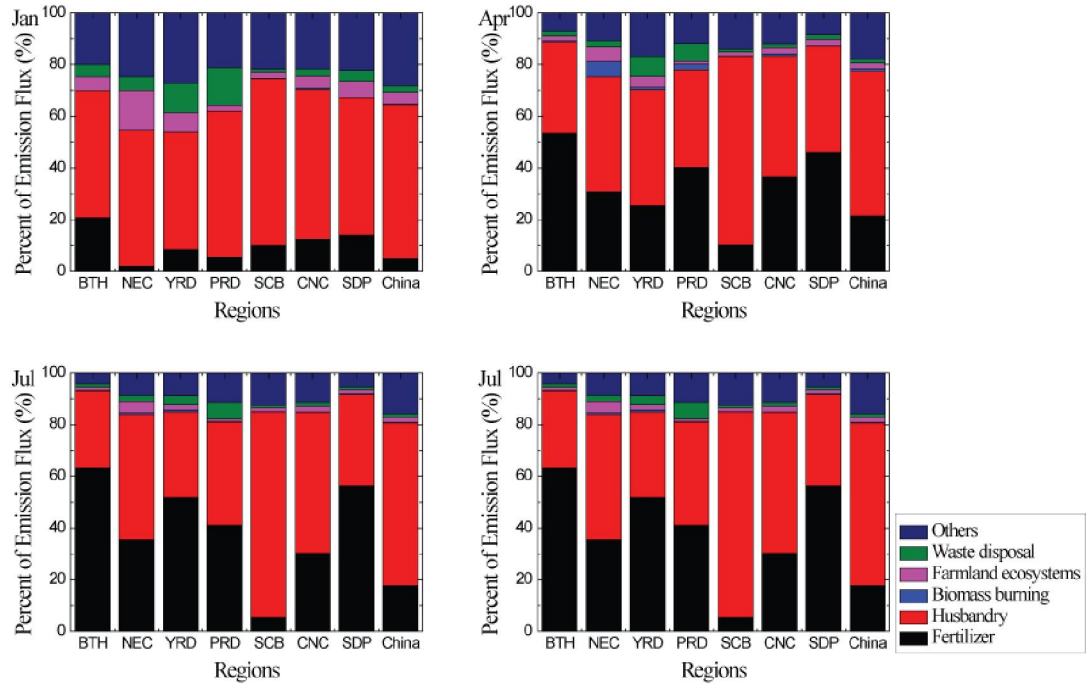


Figure A6. The percent (%) of different NH₃ emission sectors over each region in January, April, July and October.