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 SO$_2$, NO$_2$, 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 ($\mu$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 NH$_3$ 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 NH$_3$ emission flux (g/s/grid) of different agriculture sectors over each region in January, April, July and October.
Figure A6. The percent (%) of different NH$_3$ emission sectors over each region in January, April, July and October.