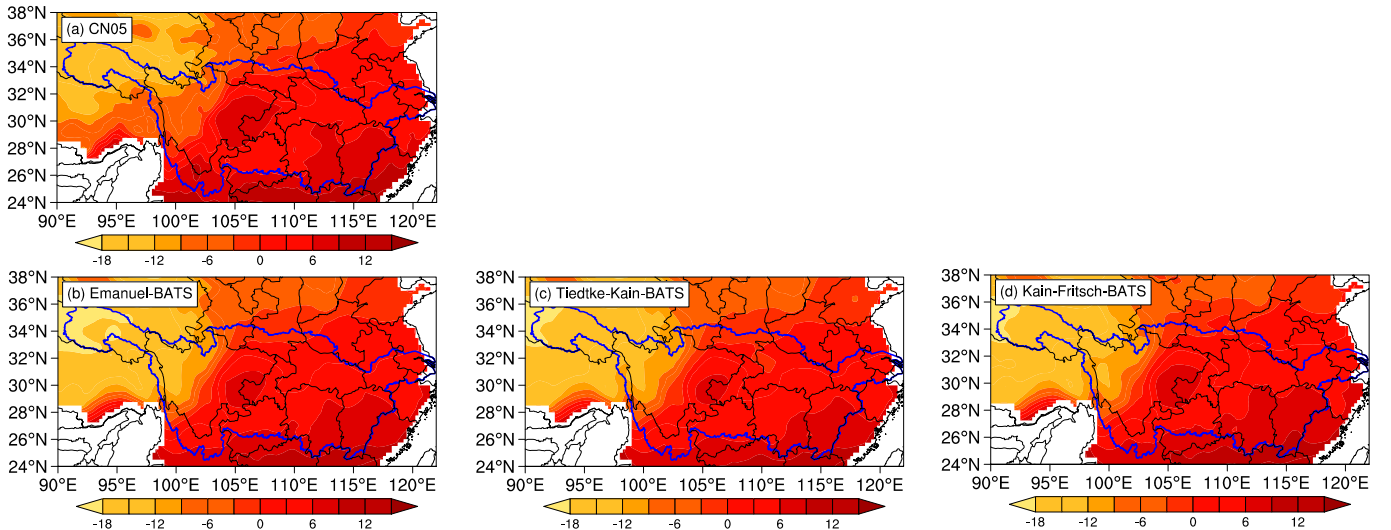


Figure S1. Spatial distribution of observed and simulated multi-year average winter total precipitation (unit: mm) for the current climate (1991-1993) over the YRB. [a CN05, b Simulation of the combination scheme of Emanuel and BATS, c Simulation of the combination scheme of Tiedtke-Kain and BATS, d Simulation of the combination scheme of Kain-Fritsch and BATS, e-g same as b-d but for CLM3.5, and h-j same as b-d but for CLM4.5.].



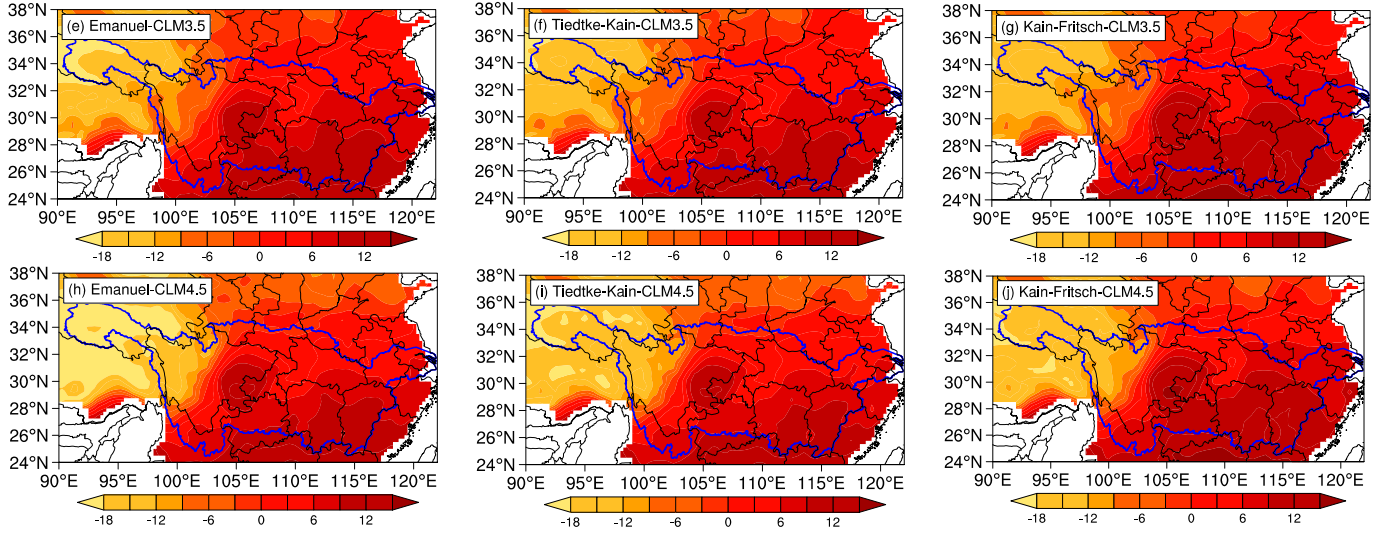


Figure S2. Spatial distribution of observed and simulated multi-year average winter average temperature (unit: °C) for the current climate (1991-1993) over the YRB. [a CN05, b simulation of the combination scheme of Emanuel and BATS, c simulation of the combination scheme of Tiedtke-Kain and BATS, d Simulation of the combination scheme of Kain-Fritsch and BATS, e-g same as b-d but for CLM3.5, and h-j same as b-d but for CLM4.5.].

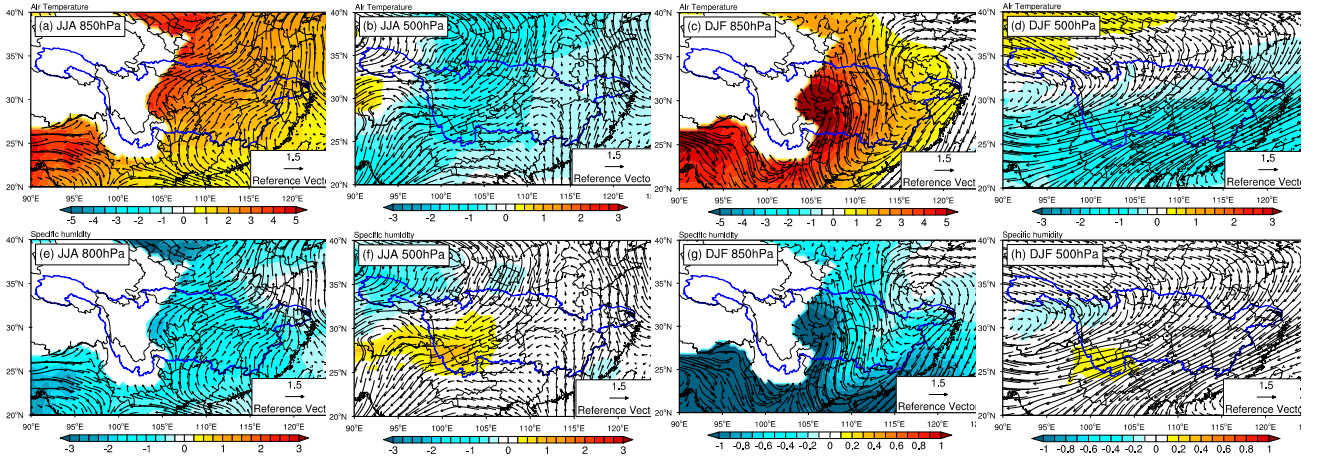


Figure S3. Difference in the wind field (m/s), temperature (a-d, °C), and specific humidity (e-f, g/kg) between CLM4.5 and BATS (defined as CLM4.5-BATS). [a] difference in summer temperature at 850 hPa, b) difference in summer temperature at 500 hPa, c) difference in winter temperature at 850 hPa, d) difference in winter temperature at 850 hPa; e-h same as a-d but for specific humidity.].