Supplemental Material for

Projected Changes in Climate Extremes over the Northeastern United States

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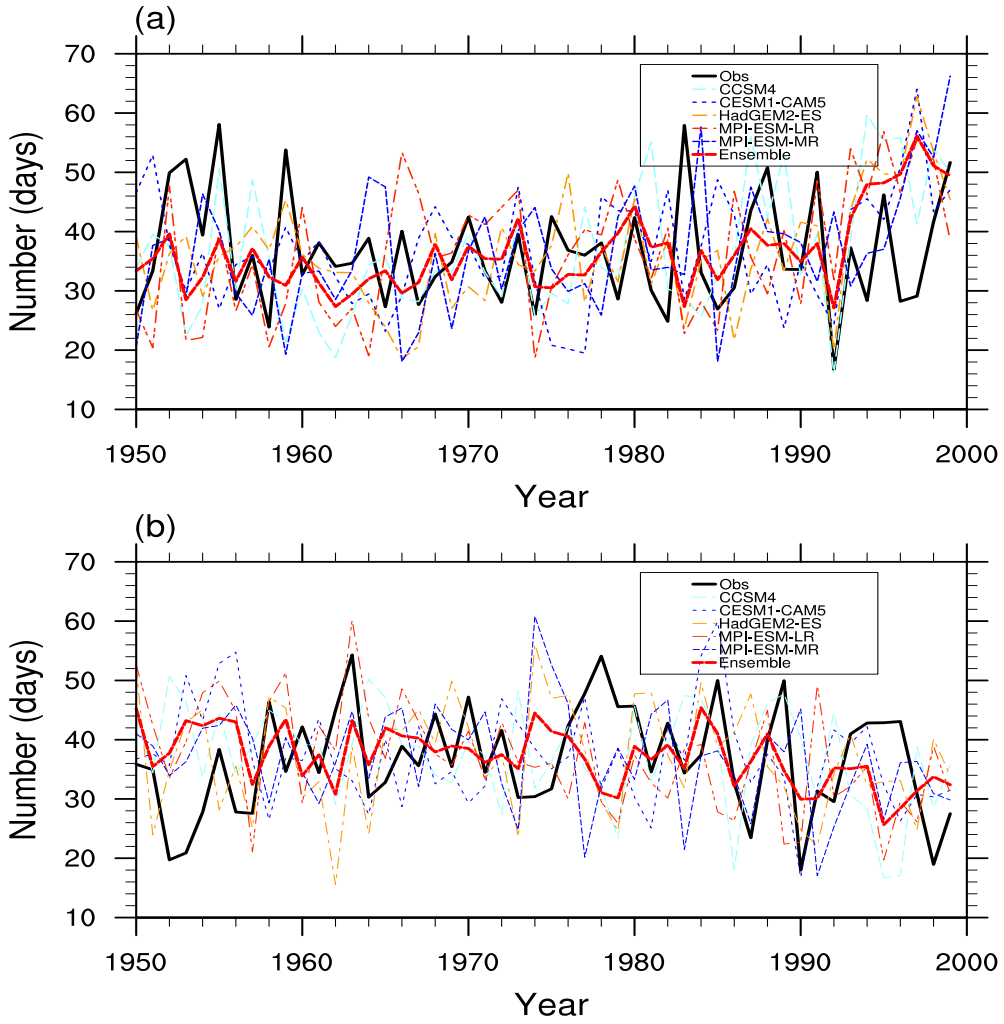

Fig. S1. The observed and downscaled time series of numbers of warm (a) and cold (b) days (unit: days) for period 1950-1999.

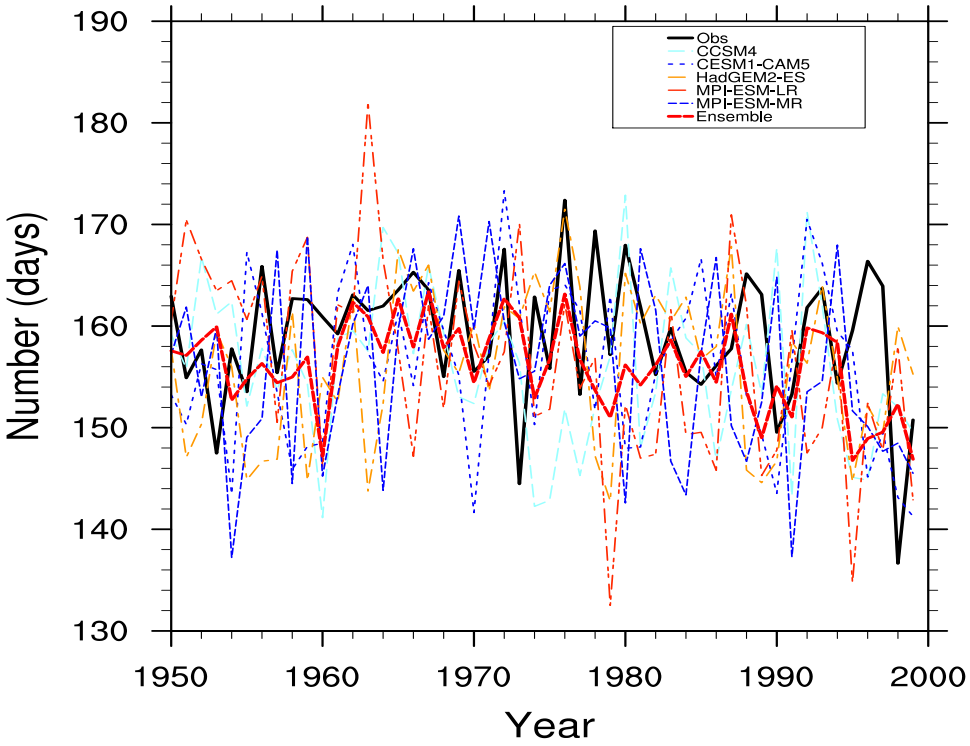

Fig. S2. The observed and downscaled time series of numbers of frost days (unit: days) for period 1950-1999.

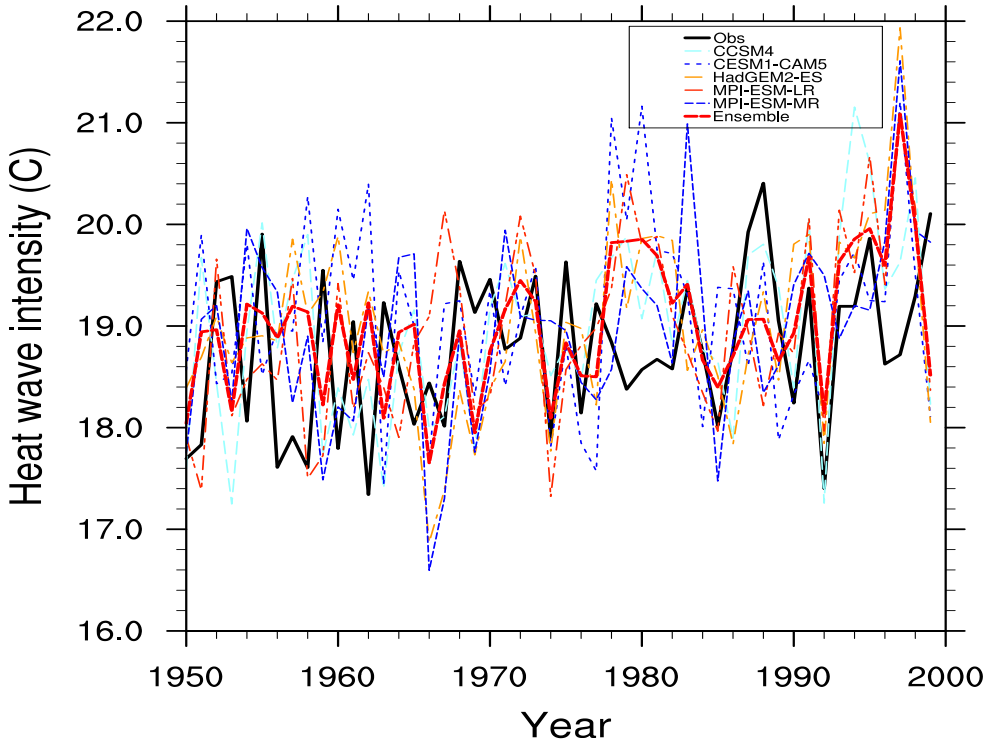

Fig. S3. The observed and downscaled time series of numbers of heat wave intensity (unit: °C) for period 1950-1999.

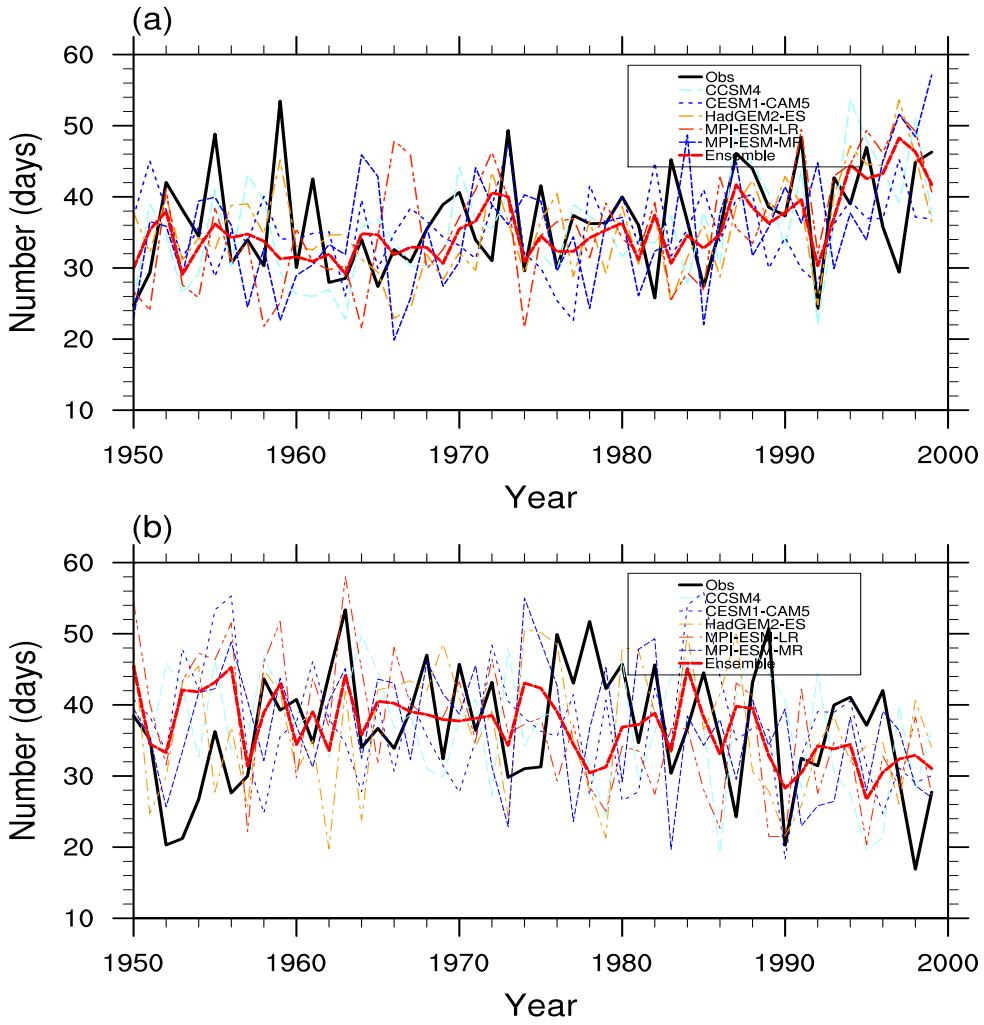

Fig. S4. The observed and downscaled time series of numbers of warm (a) and cold (b) nights (unit: days) for period 1950-1999.

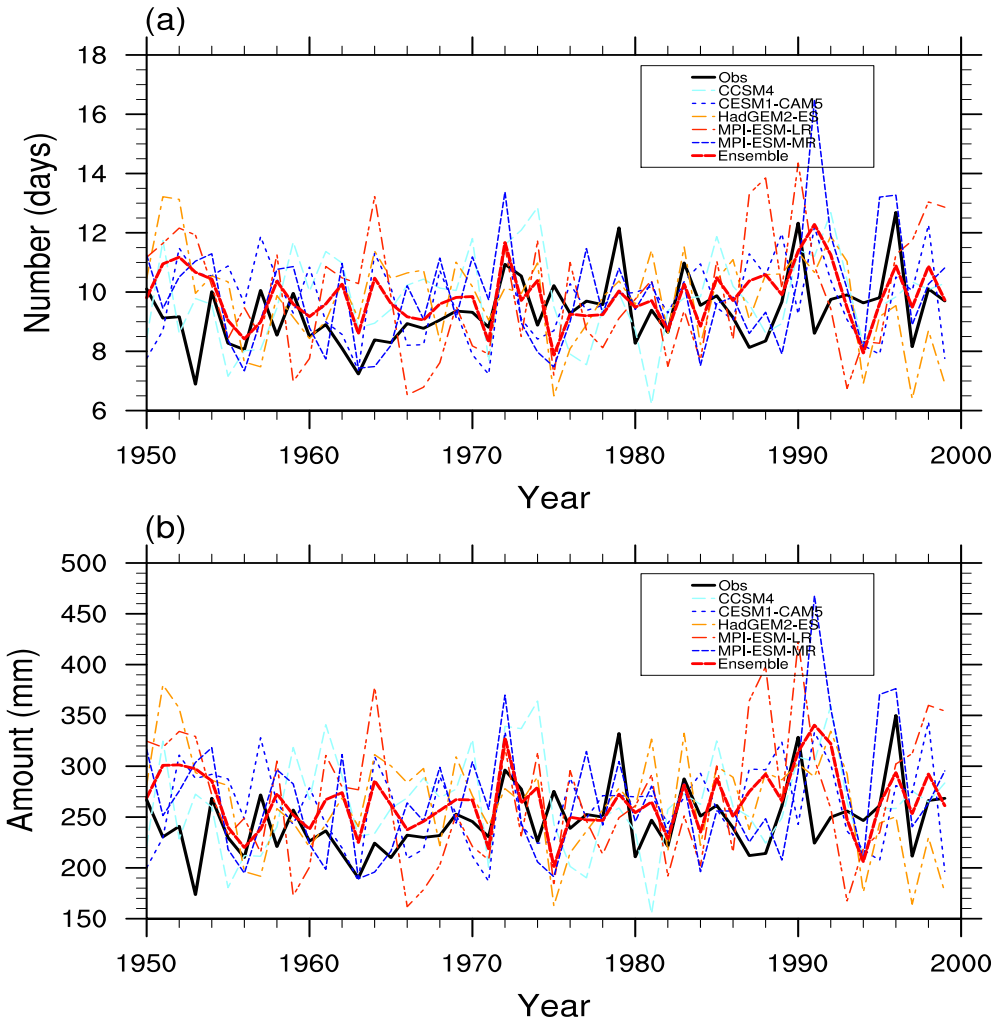

Fig. S5. The observed and downscaled time series of number of days with daily precipitation larger than 95th percentile of daily precipitation amount (a, unit: days) and total precipitation amount due to daily precipitation larger than 95th percentile of daily precipitation amount (b, unit: mm) for period 1950-1999.

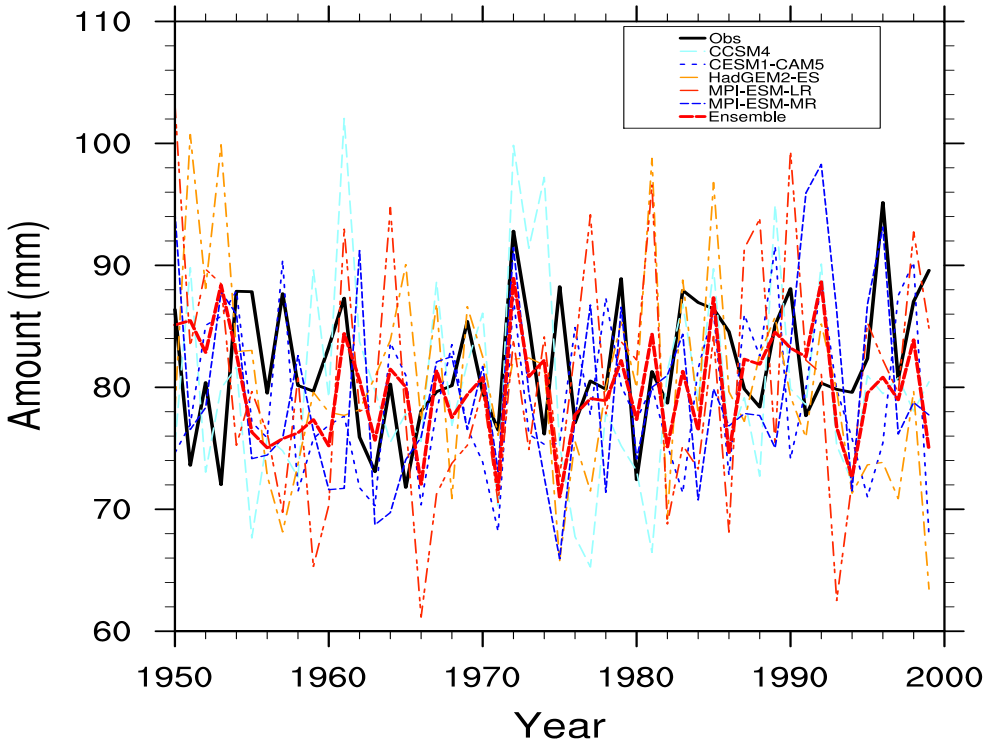

Fig. S6. The observed and downscaled time series of maximum total precipitation of 5 continuous days (unit: mm) for period 1950-1999.

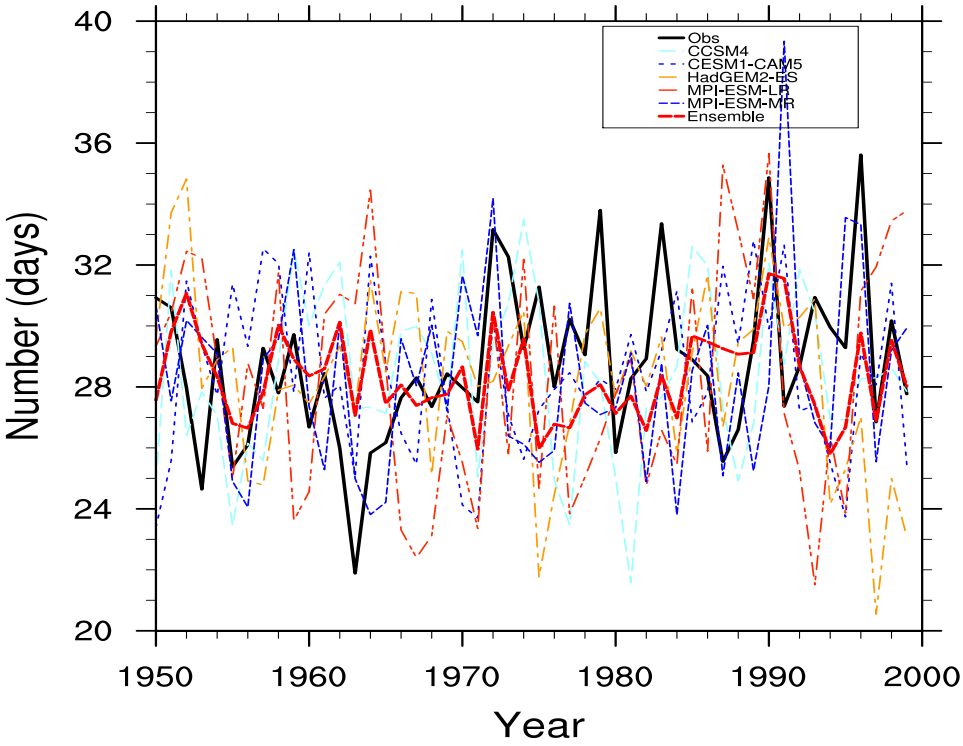

Fig. S7. The observed and downscaled time series of number of days with daily precipitation larger than 10 mm (unit: days) for period 1950-1999.

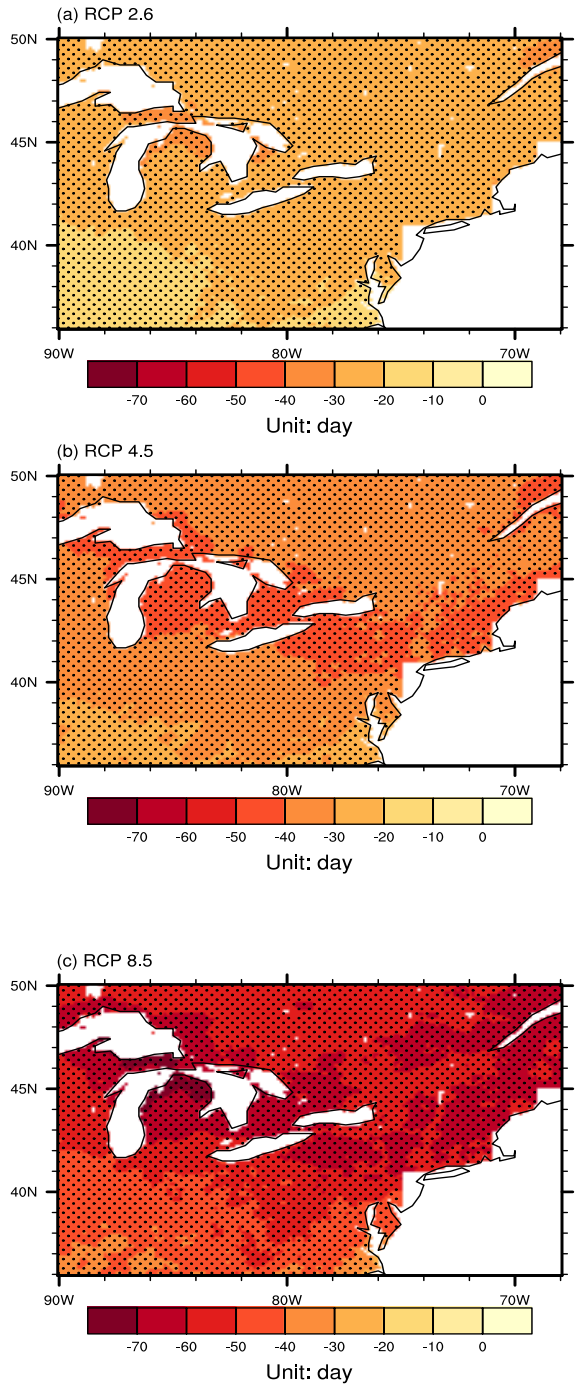

Fig. S8. The spatial distributions of future changes of frost days (Fd) under the RCP2.6 (a), RCP4.5 (b), and RCP8.5 (c) emissions scenarios (unit: days) for the period 2050-2099 relative to period 1950-1999. Stippling indicates changes significant at the p=0.05 level.

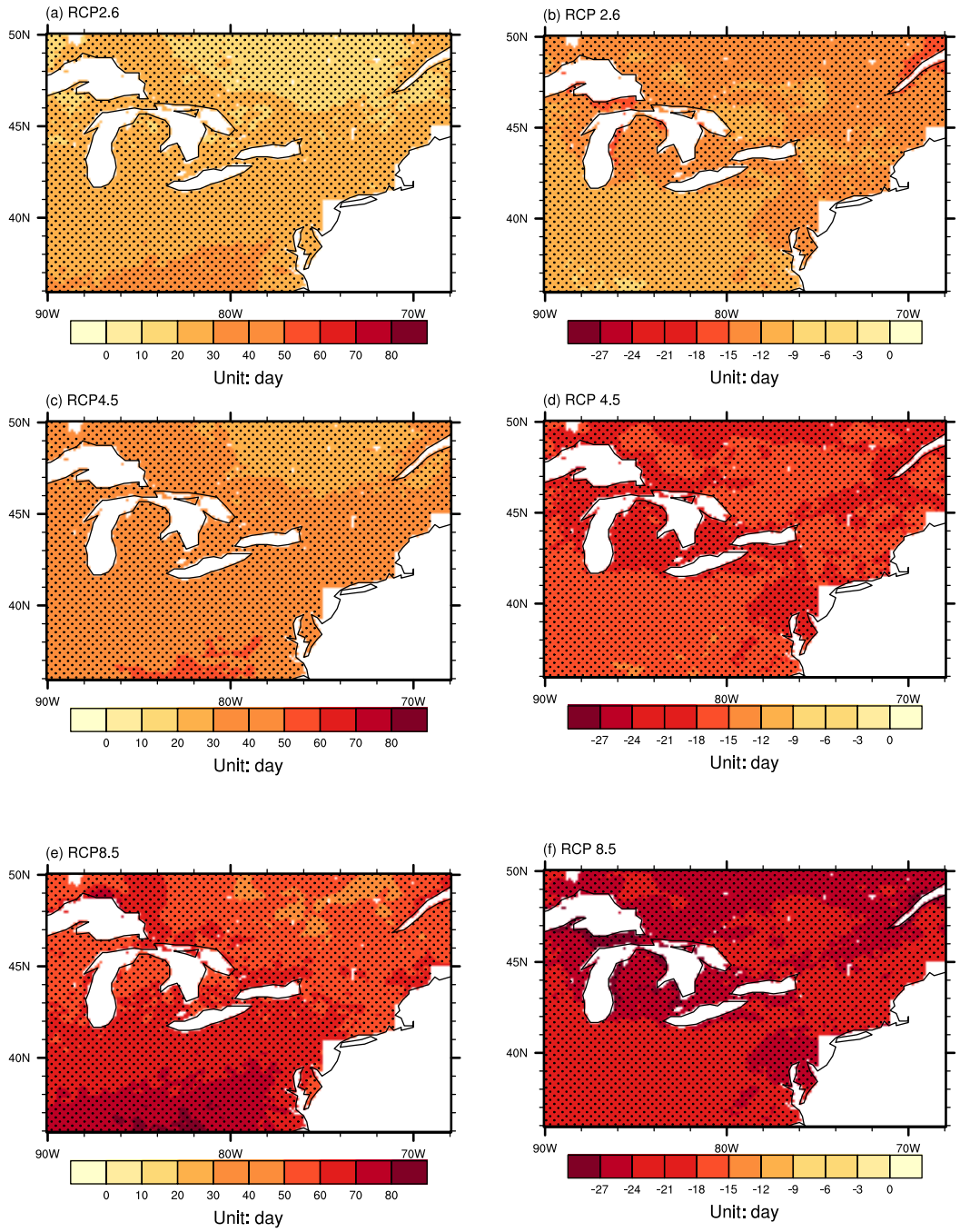

Fig. S9. The spatial distributions of future trends of warm nights (Tn90p; a, c, and e) and cold nights (Tn10p; b, d, and f) under the RCP2.6 (a, b), RCP4.5 (c, d), and RCP8.5 (e, f) emissions scenarios (unit: days) for the period 2050-2099 relative to period 1950-1999 Stippling indicates changes significant at the p=0.05 level.

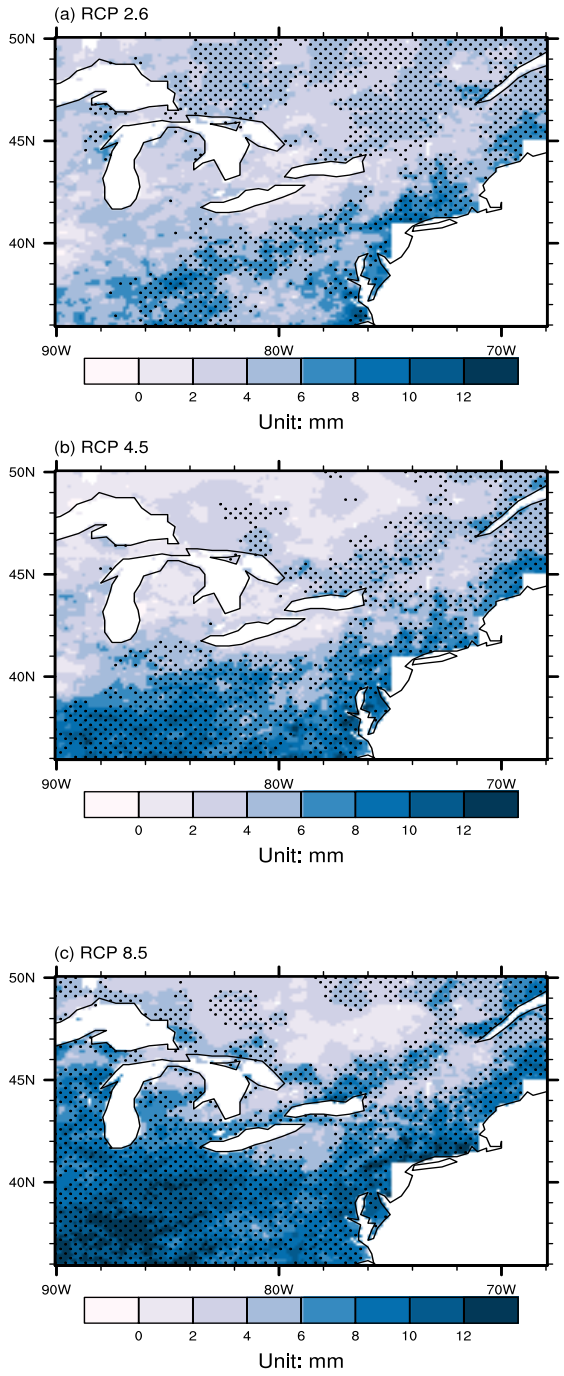

Fig. S10. The spatial distributions of future changes of maximum total precipitation of 5 continuous days (Rx5day) under the RCP2.6 (a), RCP4.5 (b), and RCP8.5 (c) emissions scenarios (unit: mm) for the period 2050-2099 relative to period 1950-1999

Stippling indicates changes significant at the p=0.05 level.

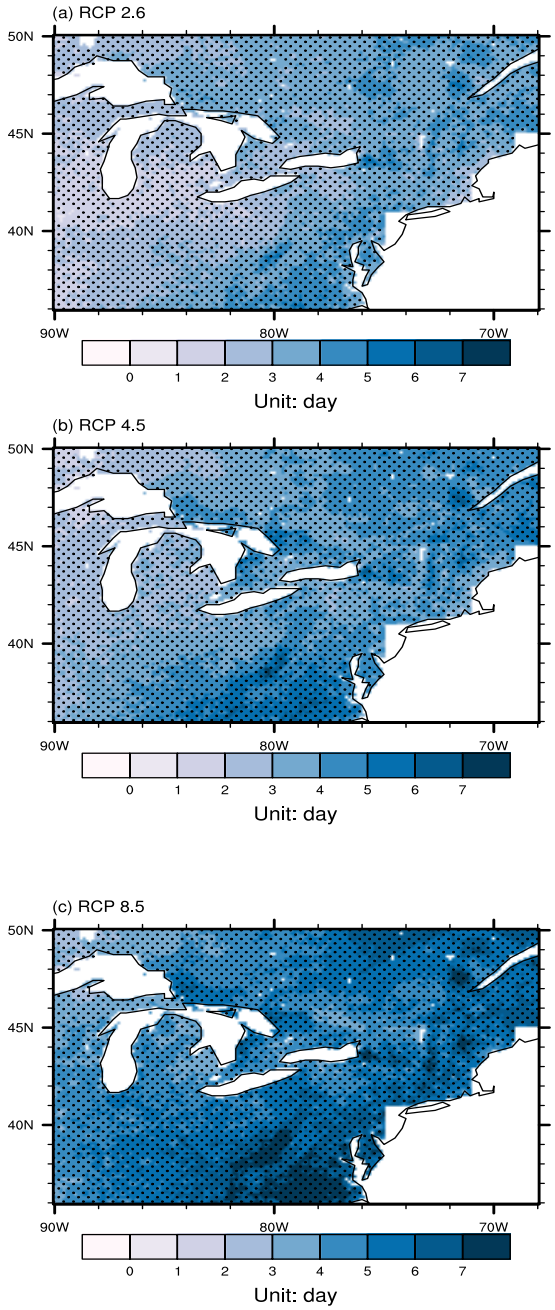

Fig. S11. The spatial distributions of future changes of number of days with daily precipitation larger than 10 mm (R10mm) under the RCP2.6 (a), RCP4.5 (b), and RCP8.5 (c) emissions scenarios (unit: days) for the period 2050-2099 relative to period 1950-1999. Stippling indicates changes significant at the p=0.05 level.

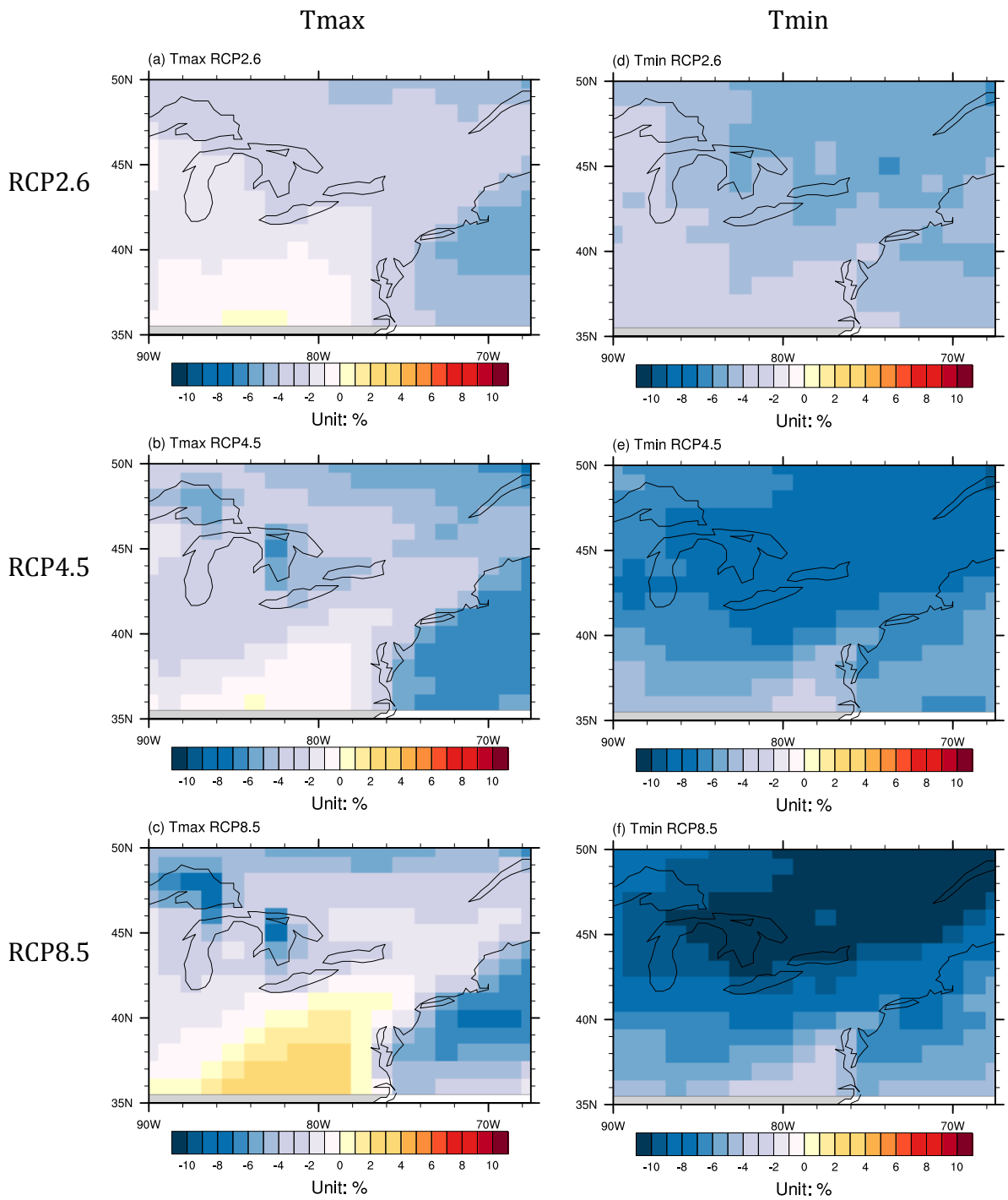

Fig. S12. Spatial distributions of future changes variability of daily maximum temperature (a, b, c) and minimum temperature (d, e, f) anomalies as percentages (Unit: %) based on the raw simulations from the five GCMs for the period 2050-2099 relative to period 1950-1999

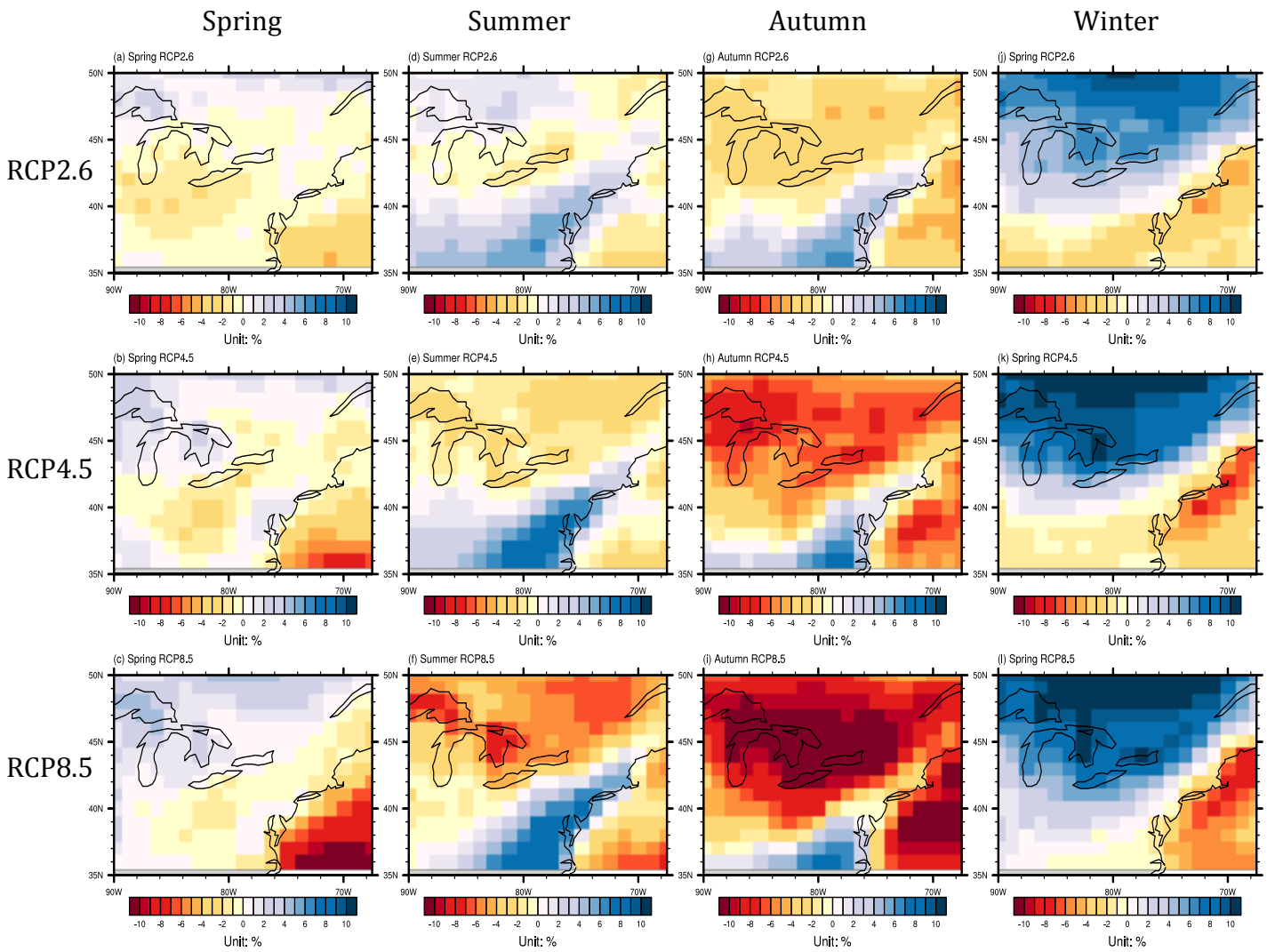

Fig. S13. Spatial distributions of future changes of numbers of rainy days over the four seasons as percentages (Unit: %) based on the raw simulations from the five GCMs for the period 2050-2099 relative to period 1950-1999