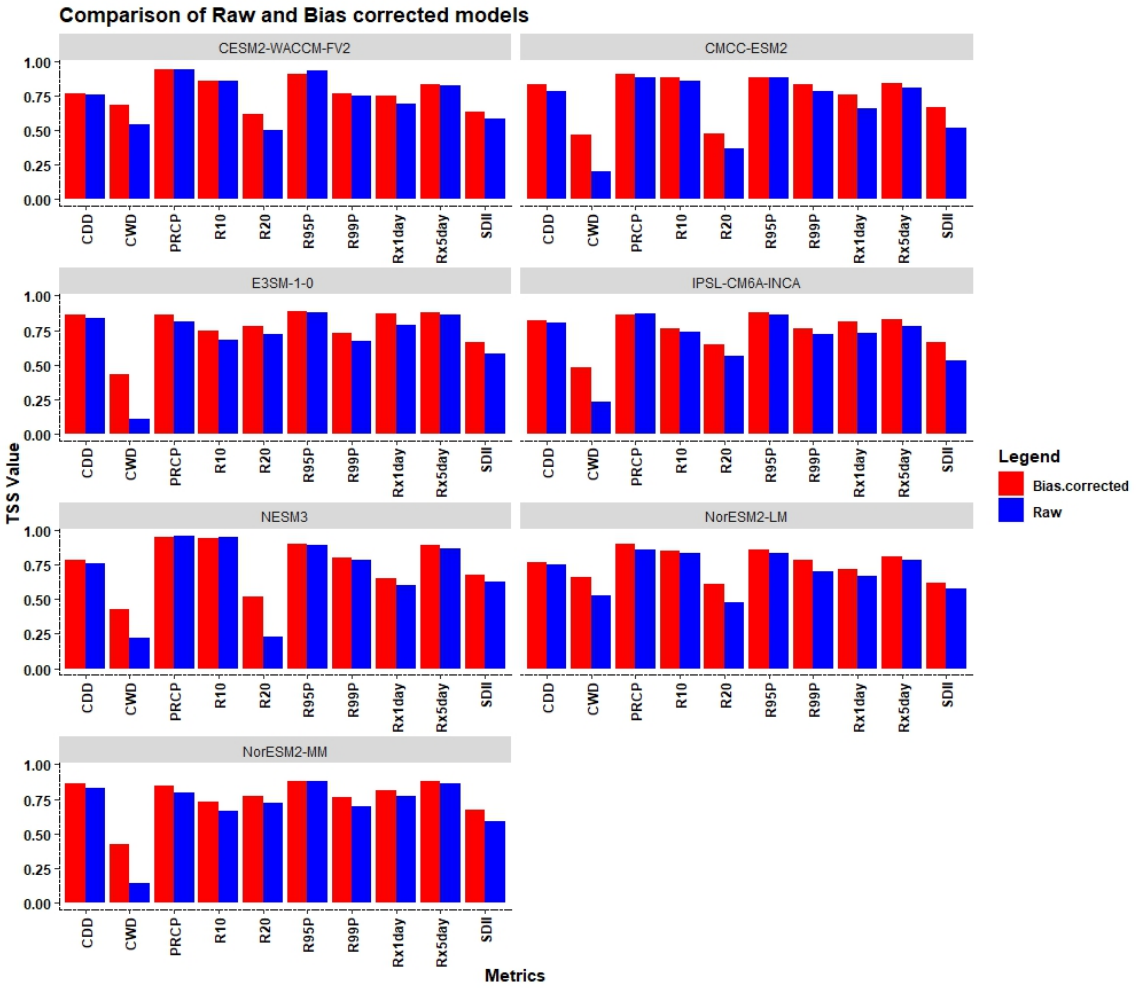


Figure S1. Comparison of raw and bias-corrected outputs for the top-ranking models in simulating extreme precipitation indices during JJAS season

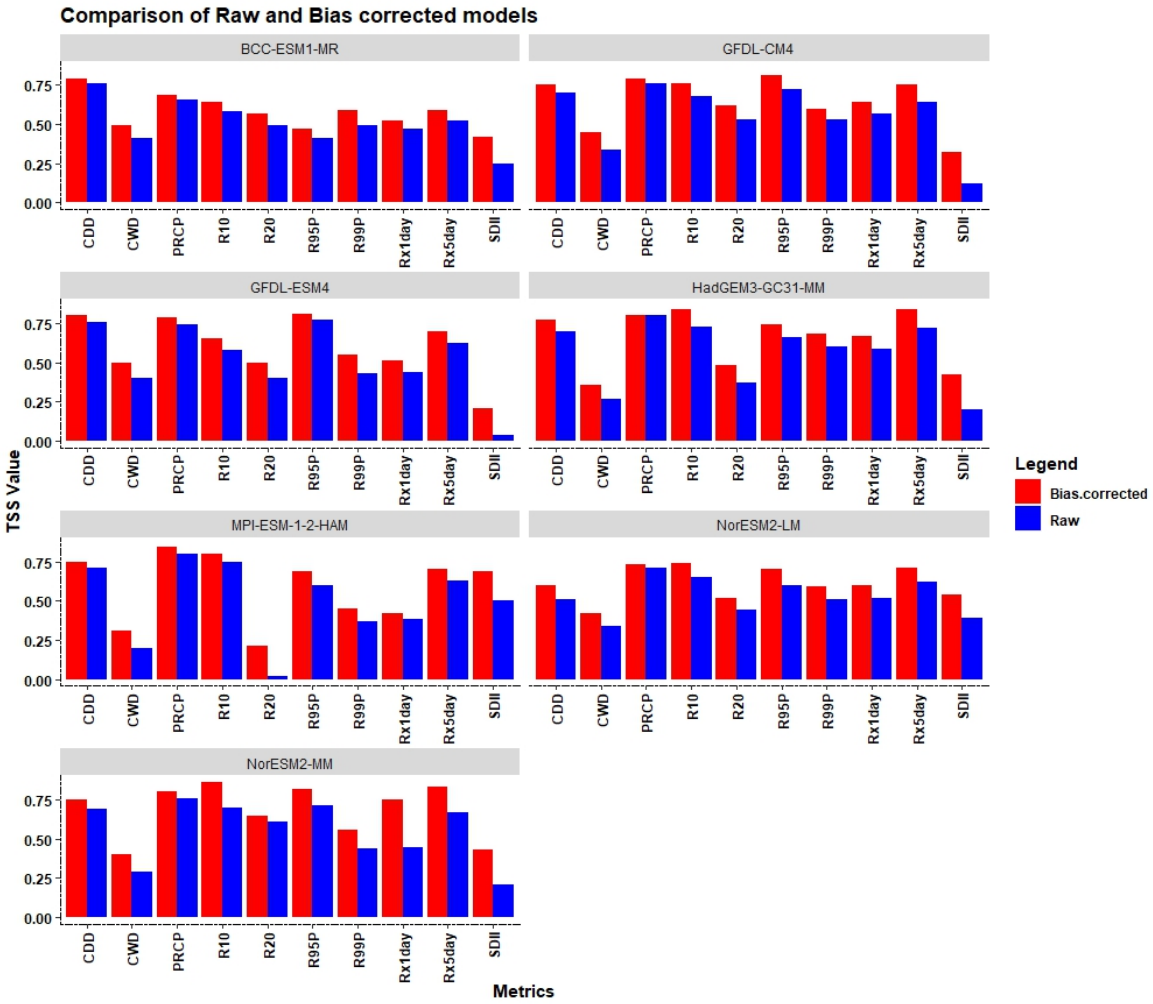


Figure S2**.** Comparison of raw and bias-corrected outputs for the top-ranking models in simulating extreme precipitation indices during FMAM season

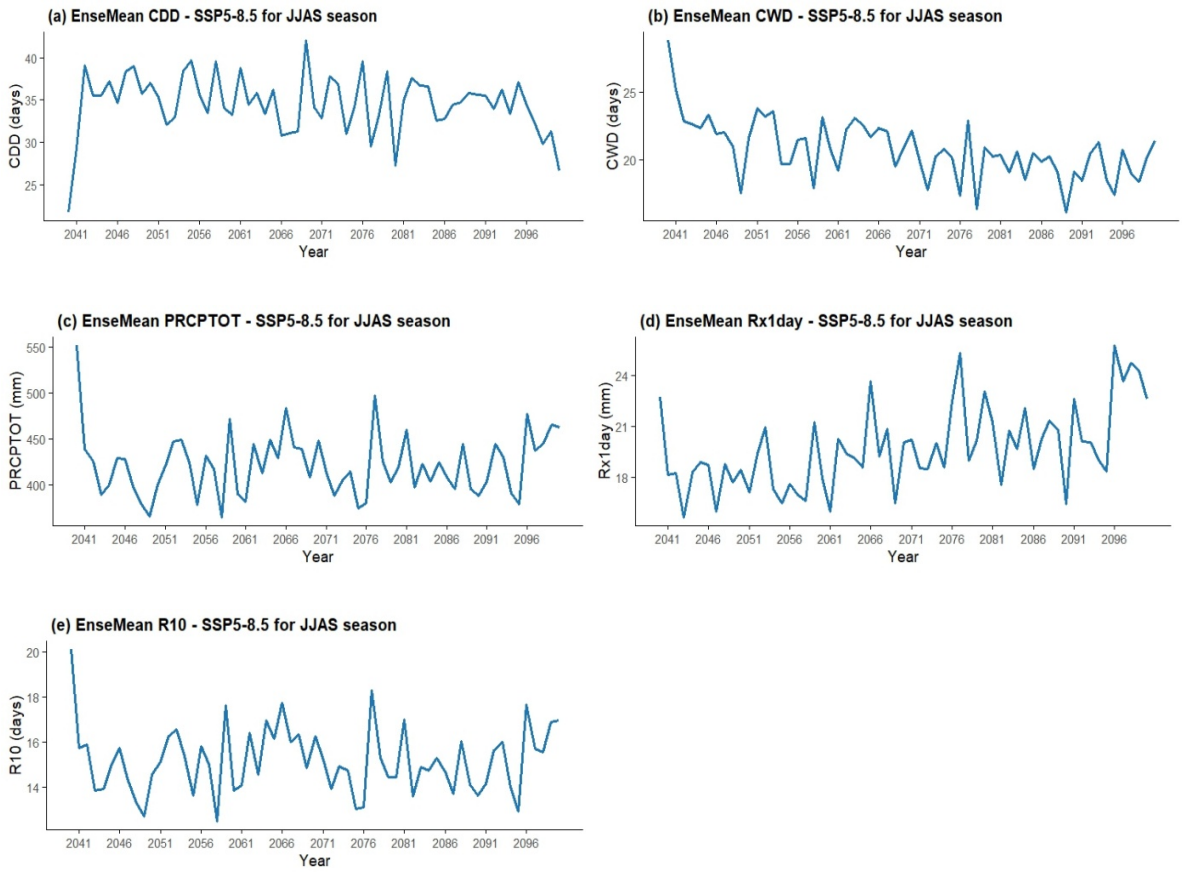
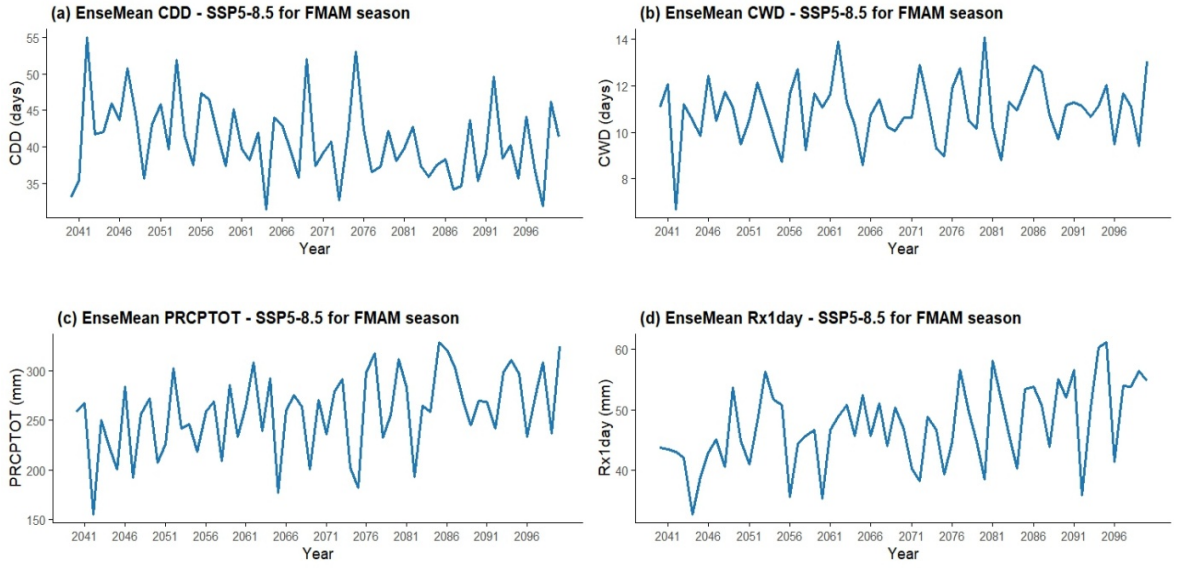


Figure S3. Time series EnseMean of CDD (days), CWD (days), PRCPTOT (mm), Rxday (mm) and R10 (days) during the JJAS season under the SSP5-8.5 scenario for the period 2040 to 2100. The solid blue line represents the annual ensemble values.



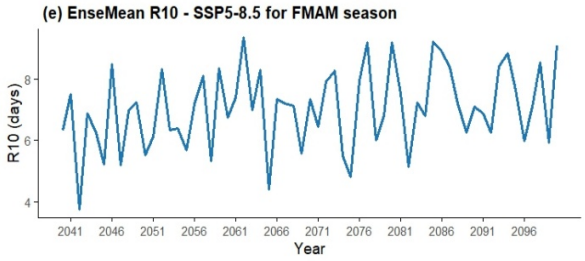
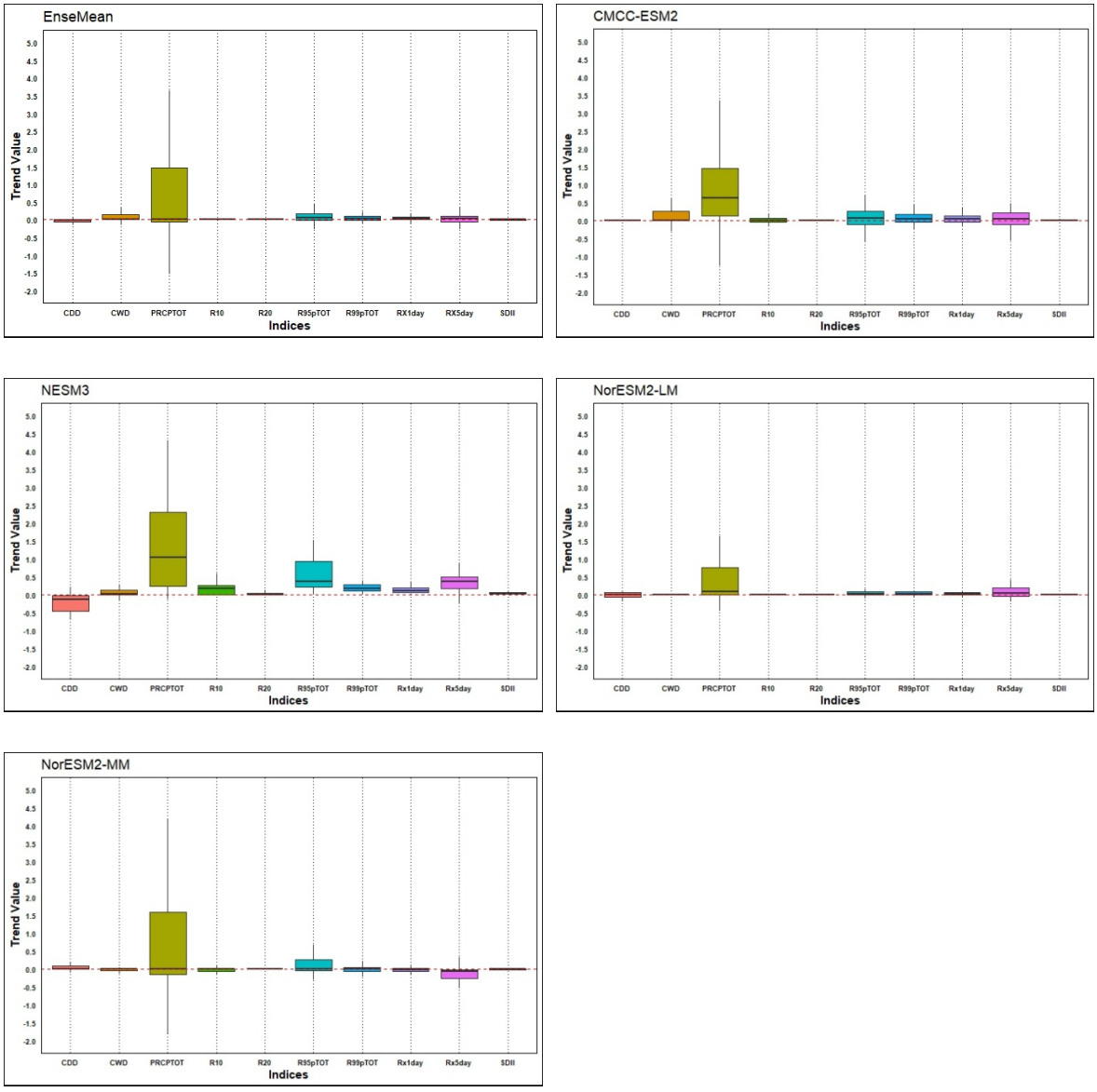


Figure S4. Time series EnseMean of CDD (days), CWD (days), PRCPTOT (mm), Rxday (mm) and R10 (days) during the FMAM season under the SSP5-8.5 scenario for the period 2040 to 2100. The solid blue line represents the annual ensemble values.



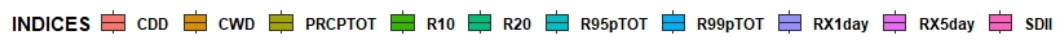
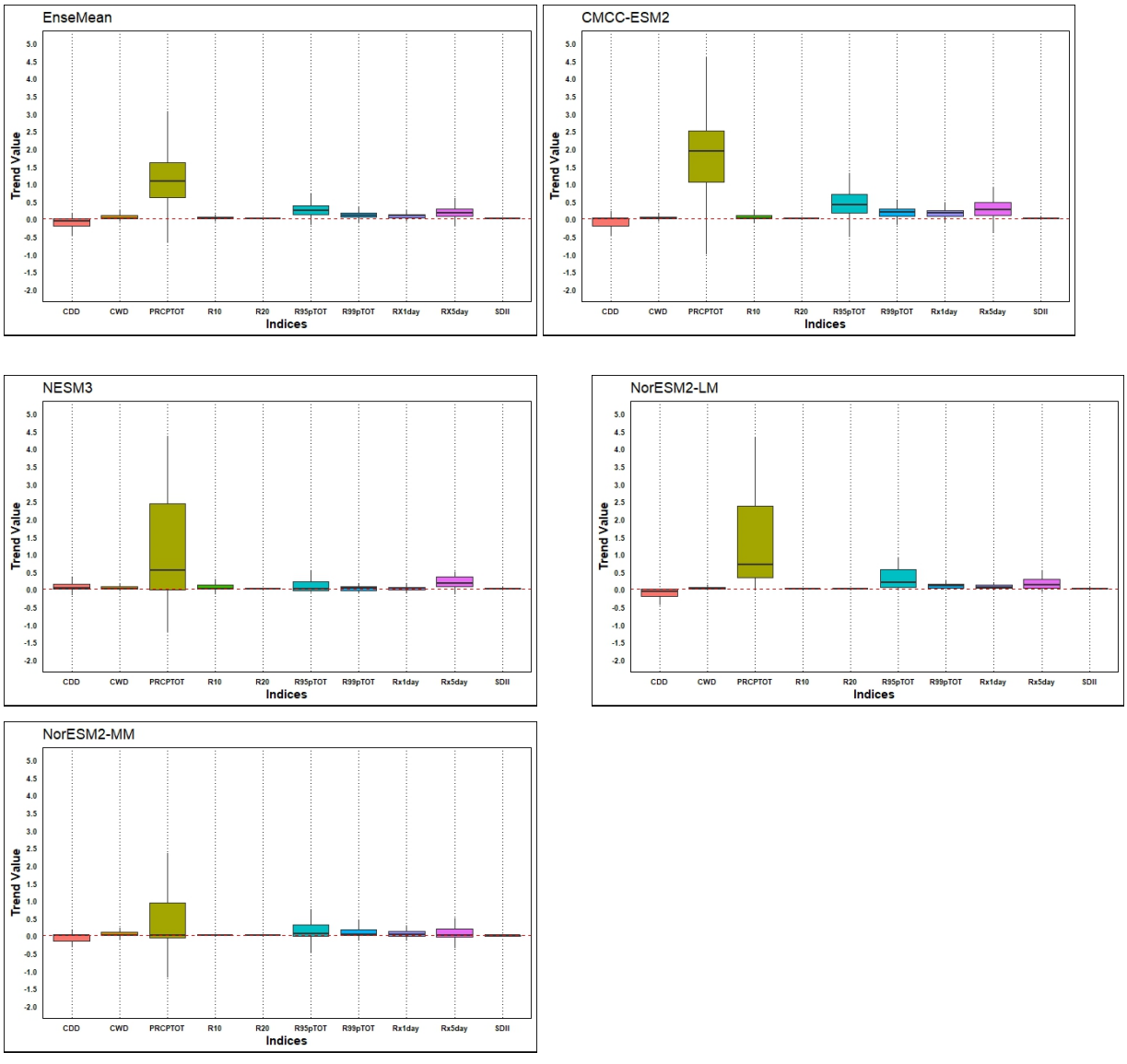


Figure S5**.** Box-and-whisker plots of trends for the EnseMean and top-performing models in simulating extreme precipitation indices: (CDD (days), CWD (days), PRCPTOT (mm), R10 (days), R20 (days), R95pTOT (mm), R99pTOT (mm), Rx1day (mm), Rx5day, and SDII (mm)) for JJAS season for the 2050s under SSP585 scenario. Box-and-whisker plots of trends for the EnseMean in simulating extreme precipitation indices: (CDD (days), CWD (days), PRCPTOT (mm), R10 (days), R20 (days), R95pTOT (mm), R99pTOT (mm), Rx1day (mm), Rx5day, and SDII (mm)) for JJAS season for the 2050s under SSP585 scenario. The boxes indicate the interquartile range, spanning the 25th to 75th percentiles. The median value is indicated by the thick colored line within each box. The whiskers represent the total intermodel range



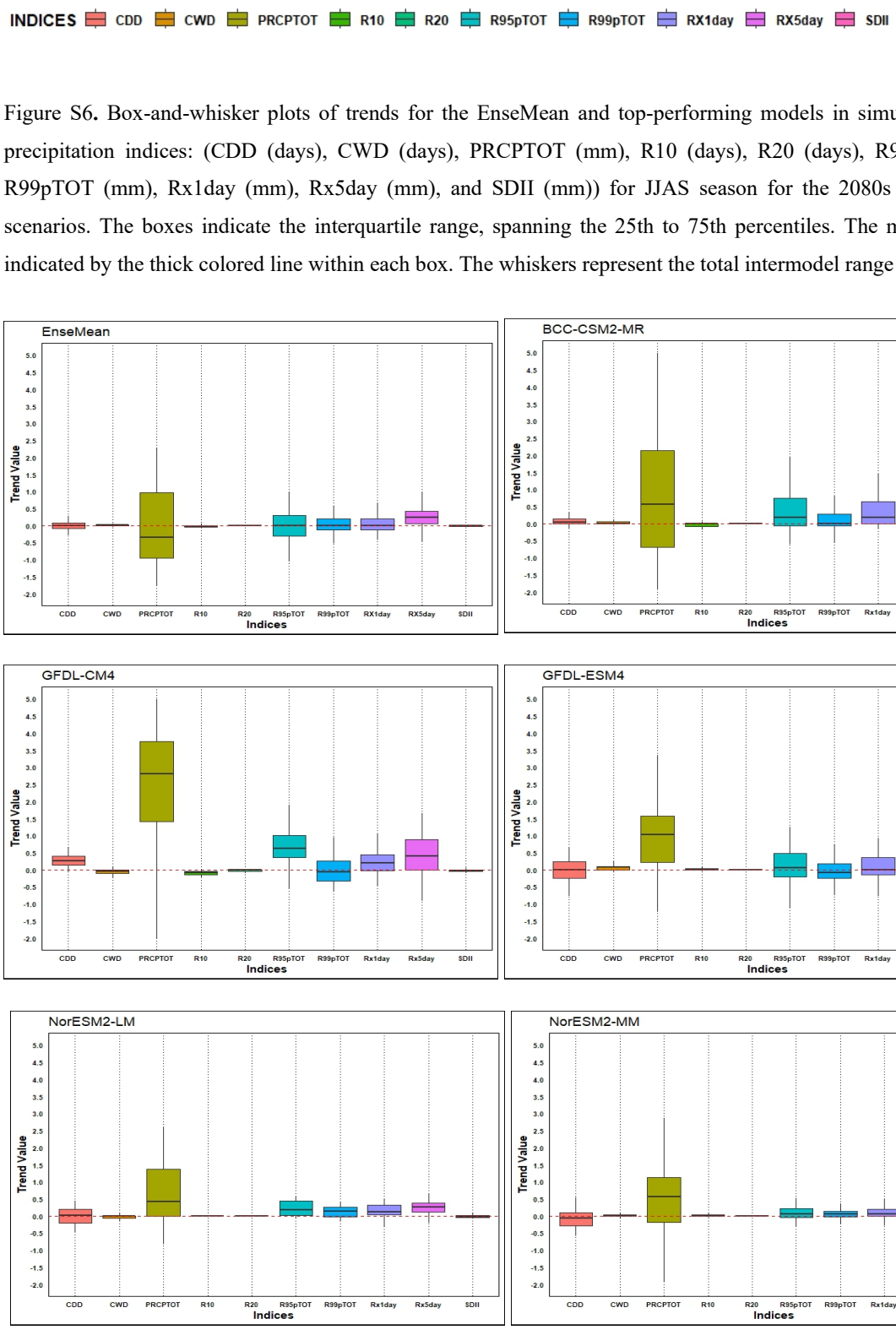


Figure S6**.** Box-and-whisker plots of trends for the EnseMean and top-performing models in simulating extreme precipitation indices: (CDD (days), CWD (days), PRCPTOT (mm), R10 (days), R20 (days), R95pTOT (mm), R99pTOT (mm), Rx1day (mm), Rx5day (mm), and SDII (mm)) for JJAS season for the 2080s under SSP585 scenarios. The boxes indicate the interquartile range, spanning the 25th to 75th percentiles. The median value is indicated by the thick colored line within each box. The whiskers represent the total intermodel range

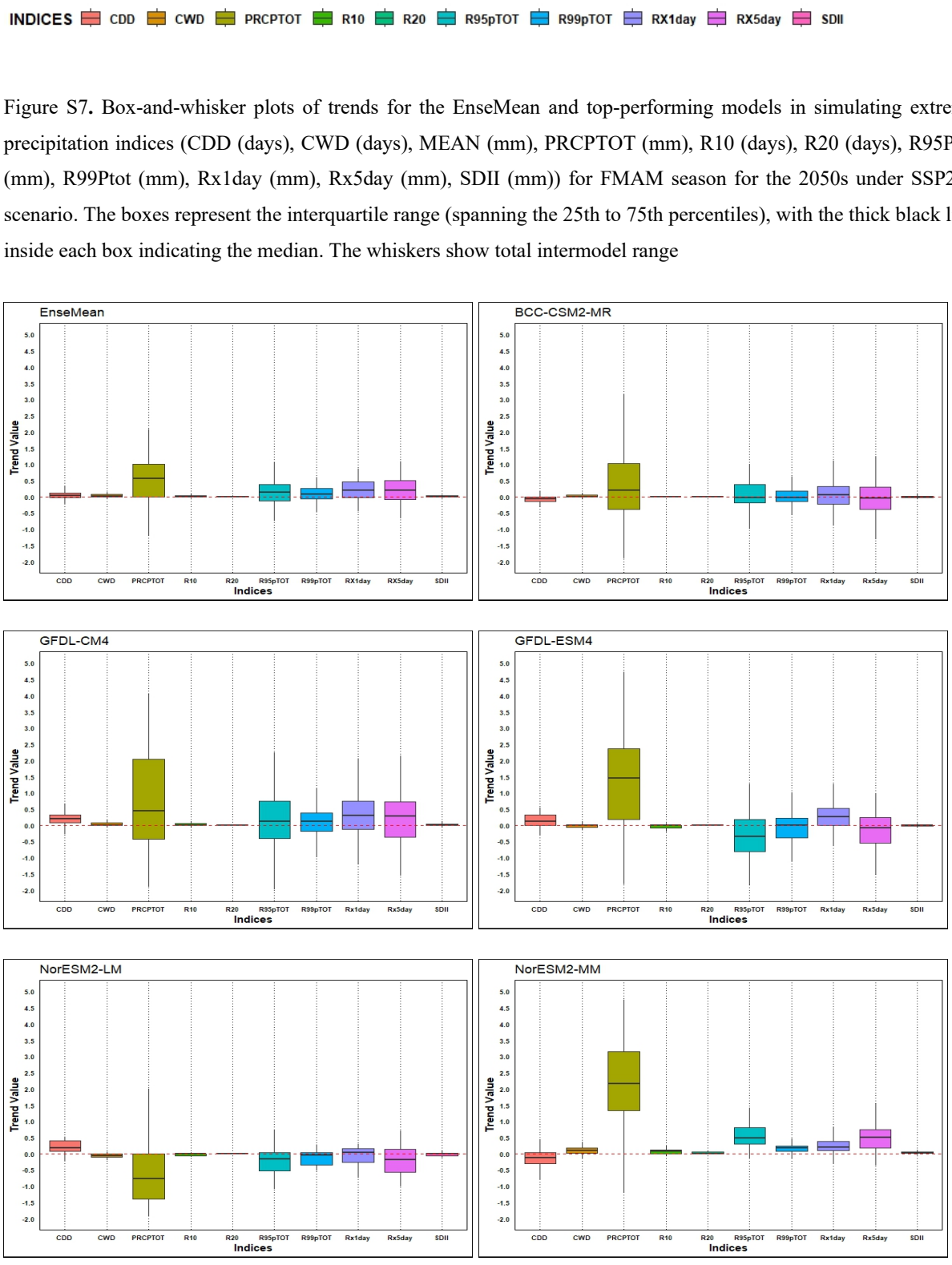


Figure S7. Box-and-whisker plots of trends for the EnseMean and top-performing models in simulating extreme precipitation indices (CDD (days), CWD (days), MEAN (mm), PRCPTOT (mm), R10 (days), R20 (days), R95Ptot (mm), R99Ptot (mm), Rx1day (mm), Rx5day (mm), SDII (mm)) for FMAM season for the 2050s under SSP245 scenario. The boxes represent the interquartile range (spanning the 25th to 75th percentiles), with the thick black line inside each box indicating the median. The whiskers show total intermodel range

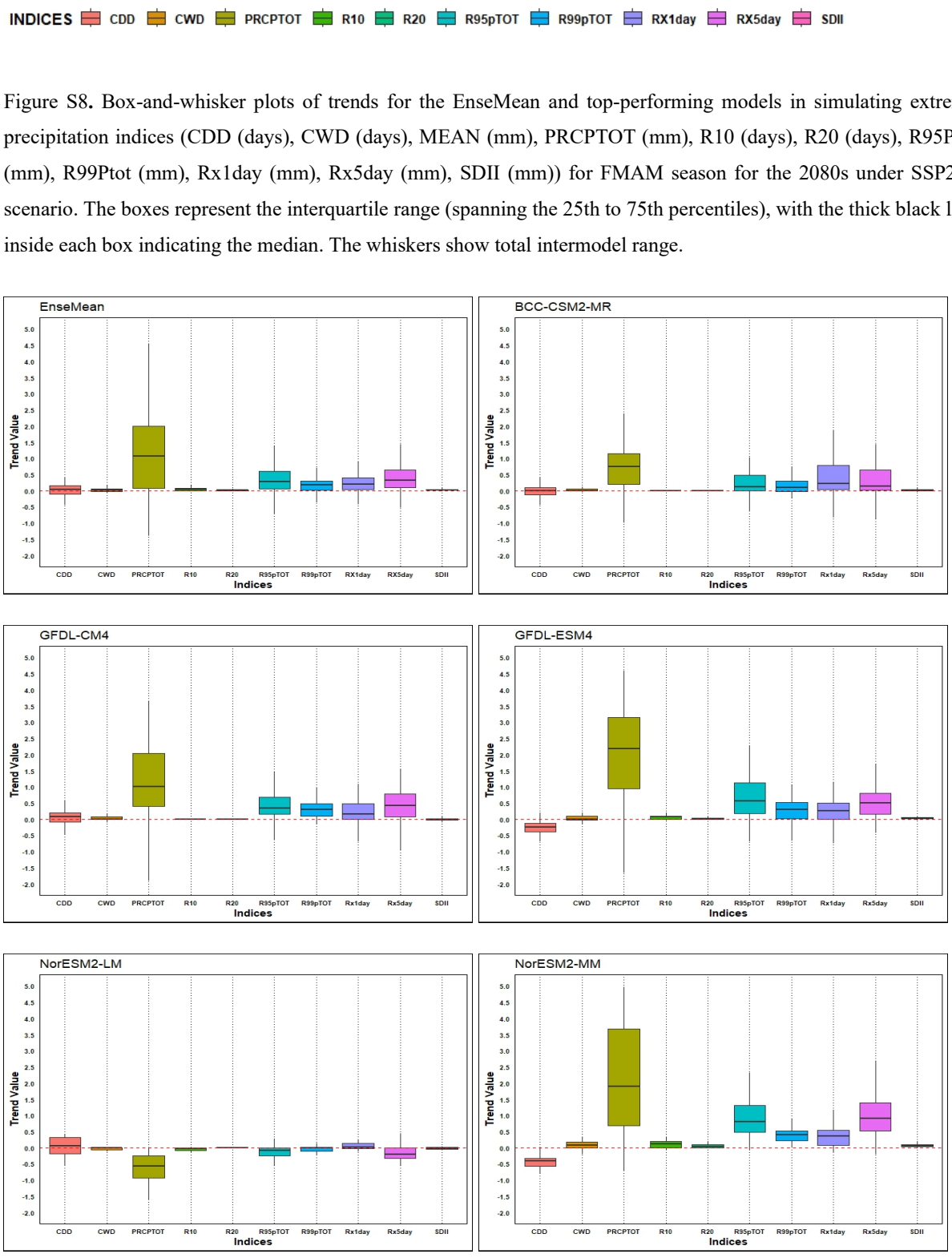


Figure S8**.** Box-and-whisker plots of trends for the EnseMean and top-performing models in simulating extreme precipitation indices (CDD (days), CWD (days), MEAN (mm), PRCPTOT (mm), R10 (days), R20 (days), R95Ptot (mm), R99Ptot (mm), Rx1day (mm), Rx5day (mm), SDII (mm)) for FMAM season for the 2080s under SSP245 scenario. The boxes represent the interquartile range (spanning the 25th to 75th percentiles), with the thick black line inside each box indicating the median. The whiskers show total intermodel range.

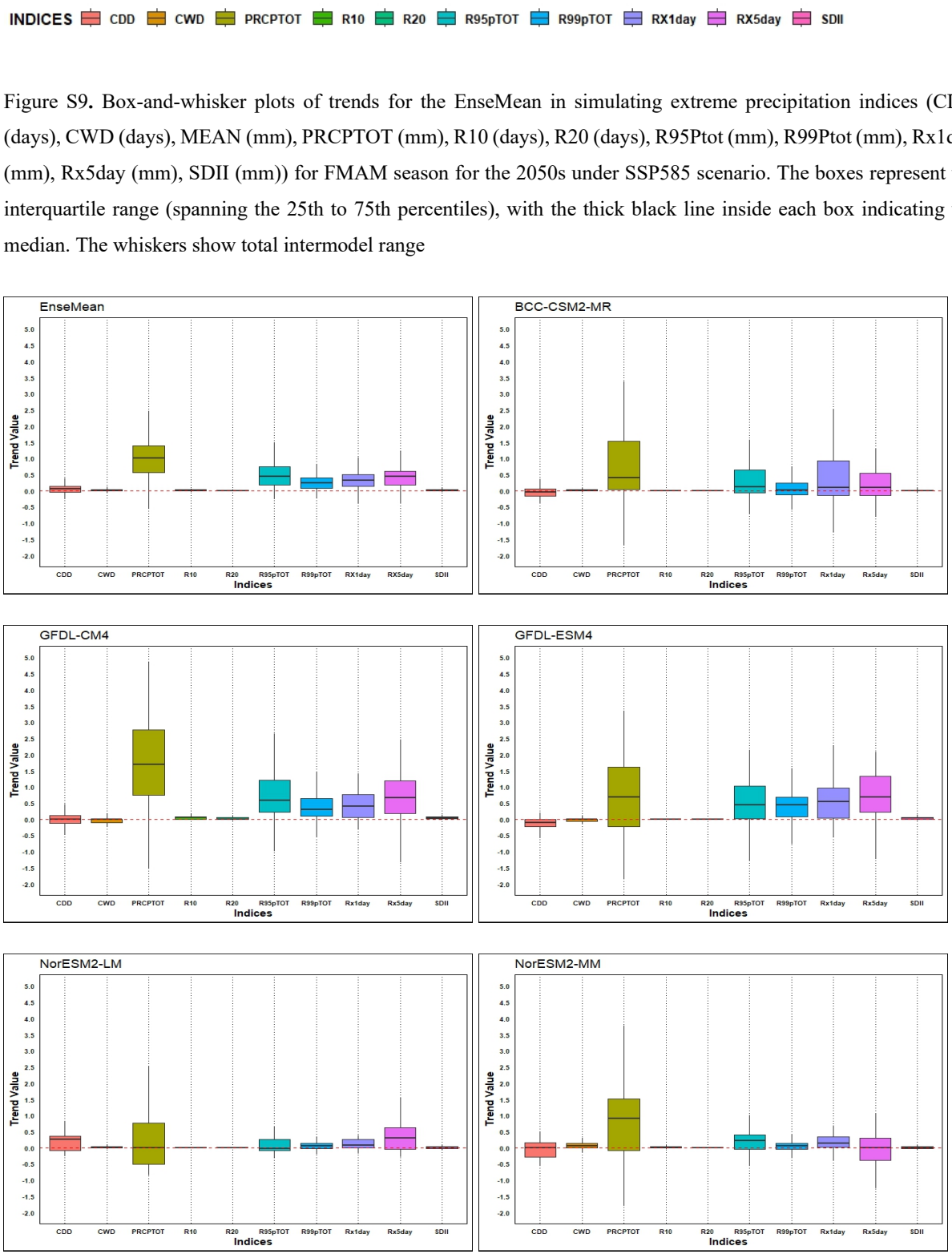


Figure S9. Box-and-whisker plots of trends for the EnseMean in simulating extreme precipitation indices (CDD (days), CWD (days), MEAN (mm), PRCPTOT (mm), R10 (days), R20 (days), R95Ptot (mm), R99Ptot (mm), Rx1day (mm), Rx5day (mm), SDII (mm)) for FMAM season for the 2050s under SSP585 scenario. The boxes represent the interquartile range (spanning the 25th to 75th percentiles), with the thick black line inside each box indicating the median. The whiskers show total intermodel range

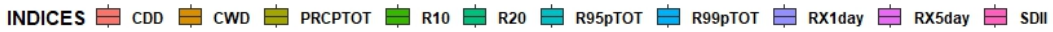


Figure S10**.** Box-and-whisker plots of trends for the EnseMean in simulating extreme precipitation indices (CDD (days), CWD (days), MEAN (mm), PRCPTOT (mm), R10 (days), R20 (days), R95Ptot (mm), R99Ptot (mm), Rx1day (mm), Rx5day (mm), SDII (mm)) for FMAM season for the 2080s under SSP585 scenario. The boxes represent the interquartile range (spanning the 25th to 75th percentiles), with the thick black line inside each box indicating the median. The whiskers show total intermodel range