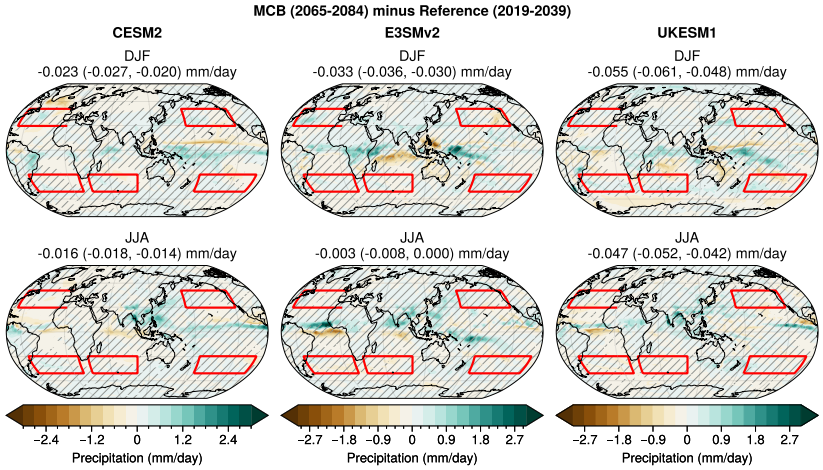

Figure S1: As in Fig. 6 but for seasonal mean precipitation.

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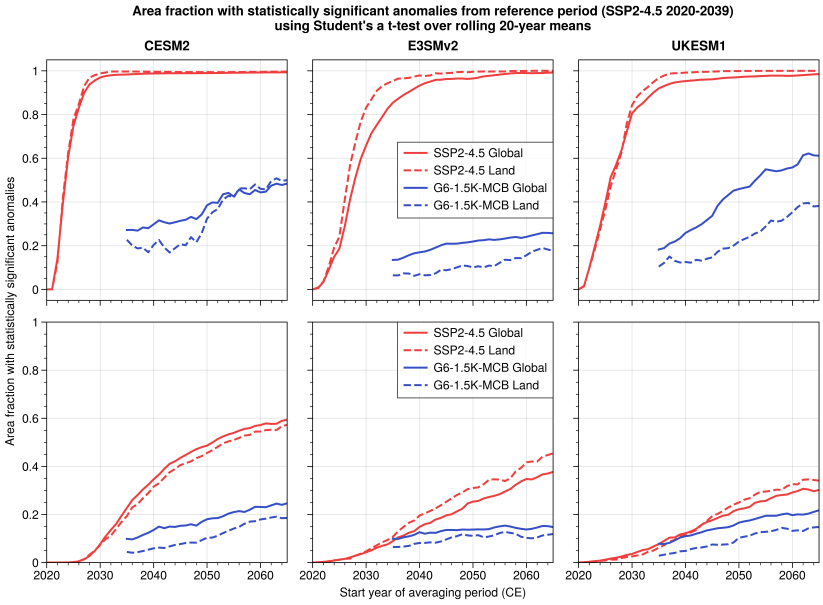

Figure S2: Time series of the area fraction with statistically significant annual mean temperature (top) and precipitation (bottom) anomalies for CESM2 (left), E3SMv2 (middle), and UKESM1 (right). Horizontal axis shows the start year of the 20-year averaging period used to compute the statistics. Red lines show SSP2-4.5 and blue lines show G6-1.5K-MCB. Solid lines show global area fraction and dashed lines show land area fraction.

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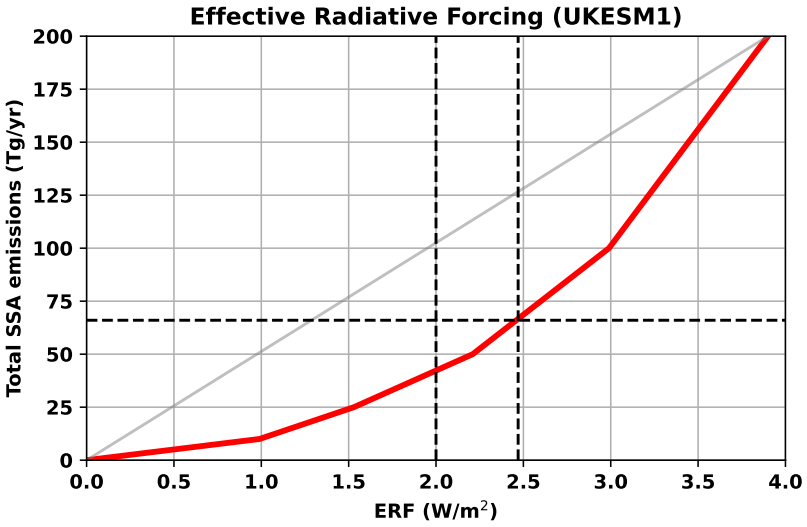

Figure S3: Global mean forcing at different midlatitude iSSA emission rates in UKESM1.

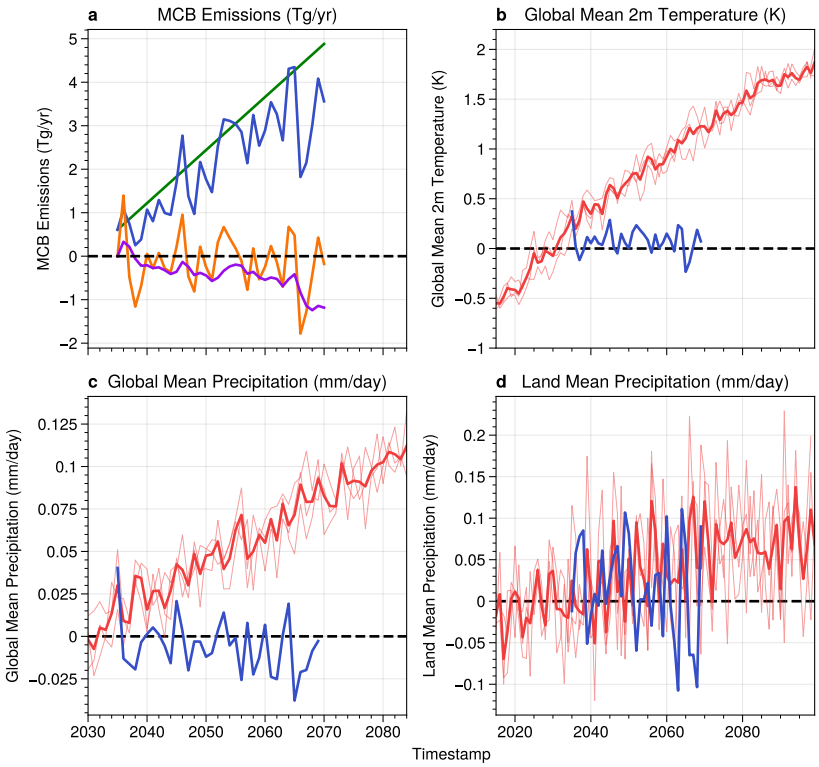

Figure S4: For CESM2-WACCM iSSA mass emissions (a), global mean surface temperature (b), global mean precipitation (c), and land mean precipitation (d). G6-1.5K-MCB simulations are shown in blue.

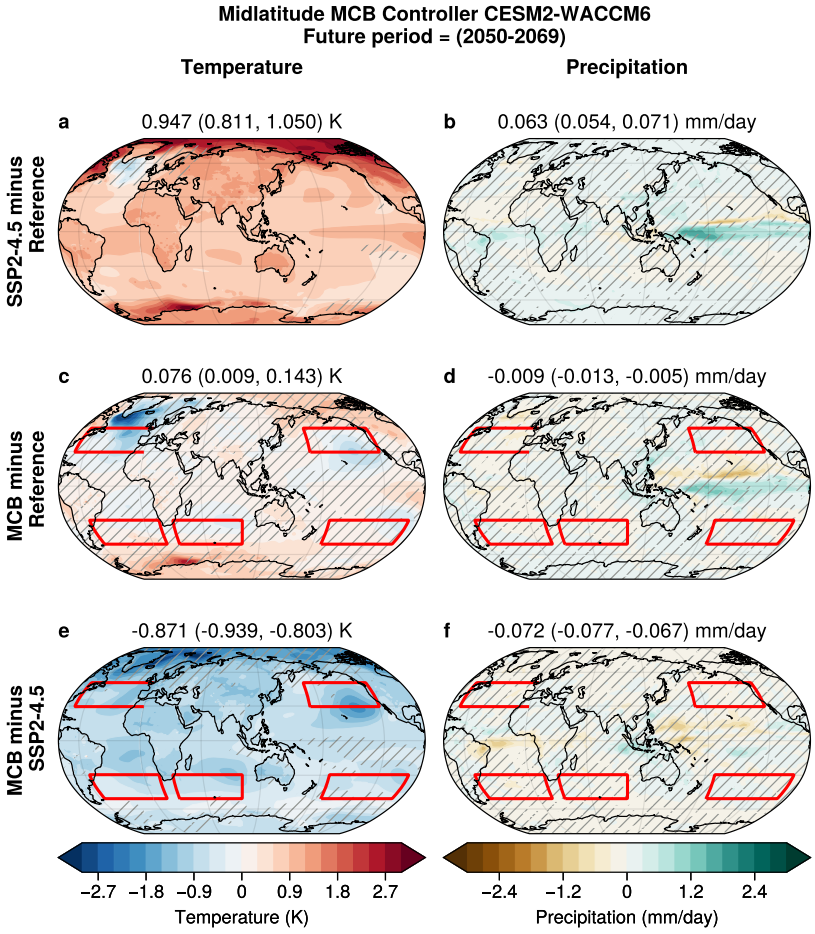

Figure S5: Annual mean temperature anomaly maps from CESM2-WACCM for SSP2-4.5 2050-2070 minus 2020-2039 (top row), G6-1.5K-MCB 2065-2084 minus SSP2-4.5 2020-2039 (middle row), and G6-1.5K-MCB 2050-2070 minus SSP2-4.5 2050-2070 (bottom row) for 2 meter temperature (left) and precipitation (right column). Hatching indicates grid points that are insignificant at the $p < 0.05$ level using a Student's t-test. MCB iSSA emission regions are shown in red boxes.

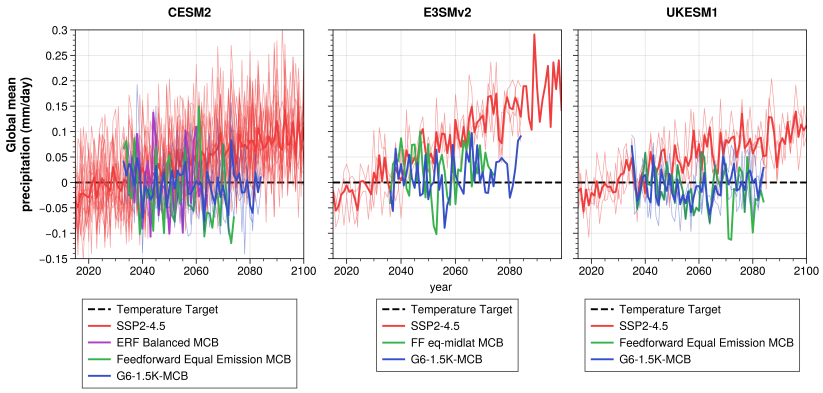

Figure S6: Annual mean precipitation averaged over land regions for CESM2 (left), E3SMv2 (middle), and UKESM1 (right).