

1 Supplementary Figures

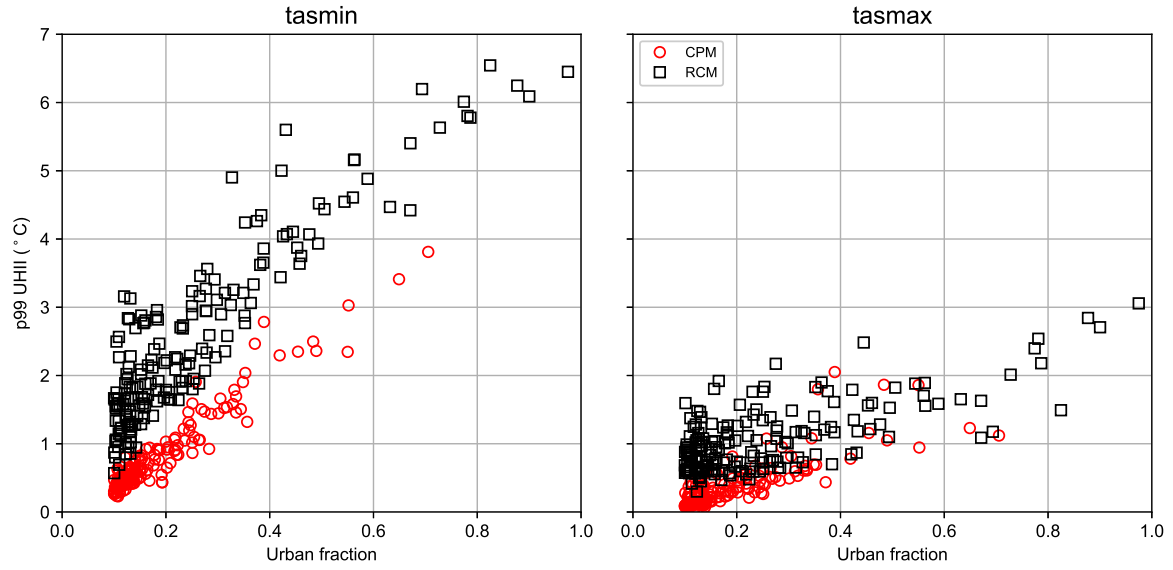


Figure S1: 99th percentile of the UHII for daytime minimum (left) and maximum (right) for the RCM (black) and CPM (red) as a function of urban fraction, using an urban threshold of 0.1. Note that this is not the same metric as that described in Section 5 and shown in Figures 4 and 5.

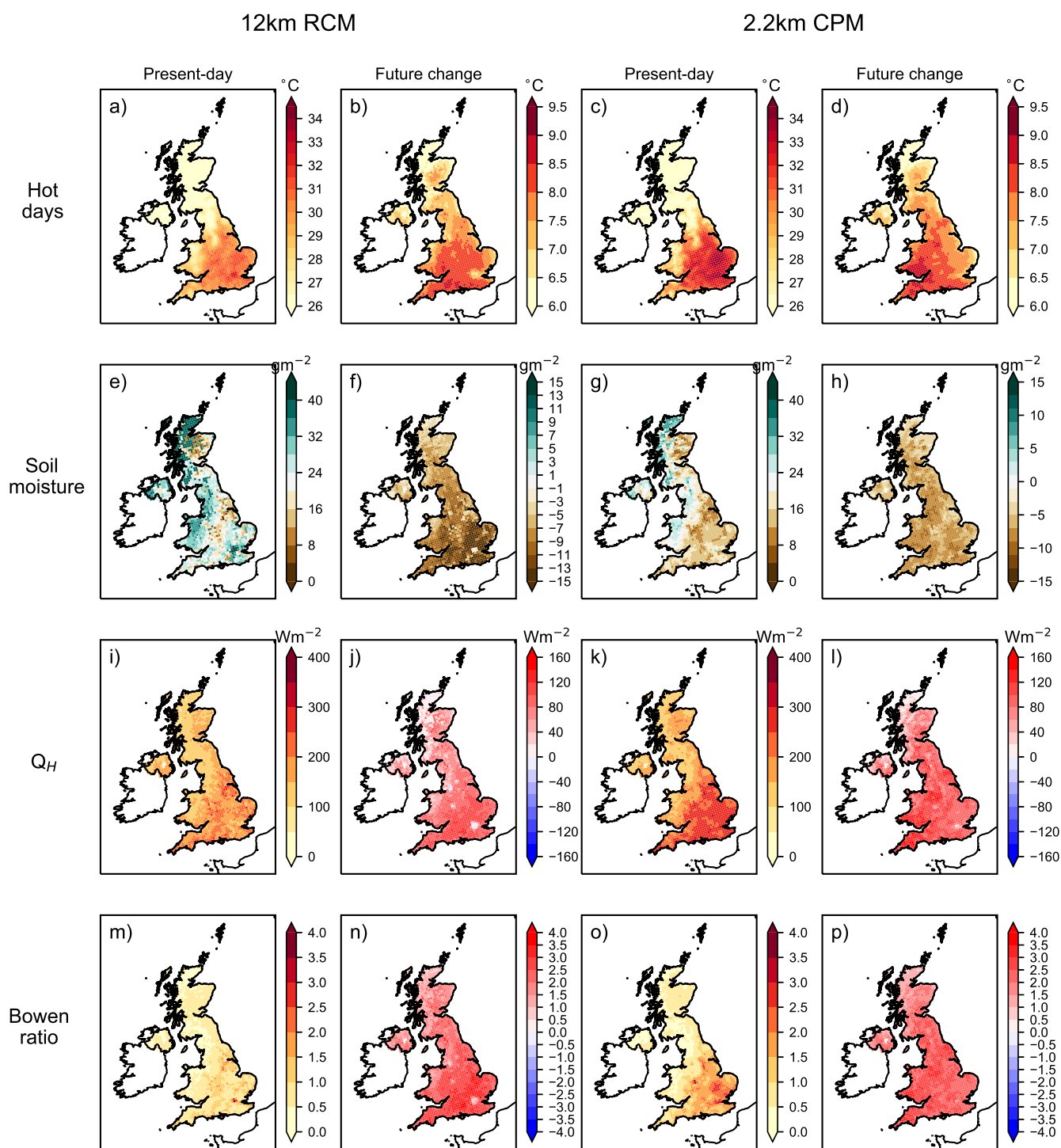


Figure S2: Present-day and future changes in hot summer days (those with daily-maximum temperature exceeding the 99th percentile of JJA) in the RCM and CPM (a-d) and corresponding ensemble mean soil moisture (e-h), sensible heat fluxes (i-l) and Bowen ratios (n-p) on those days. Note that future changes in Bowen ratio are expressed as a factor.

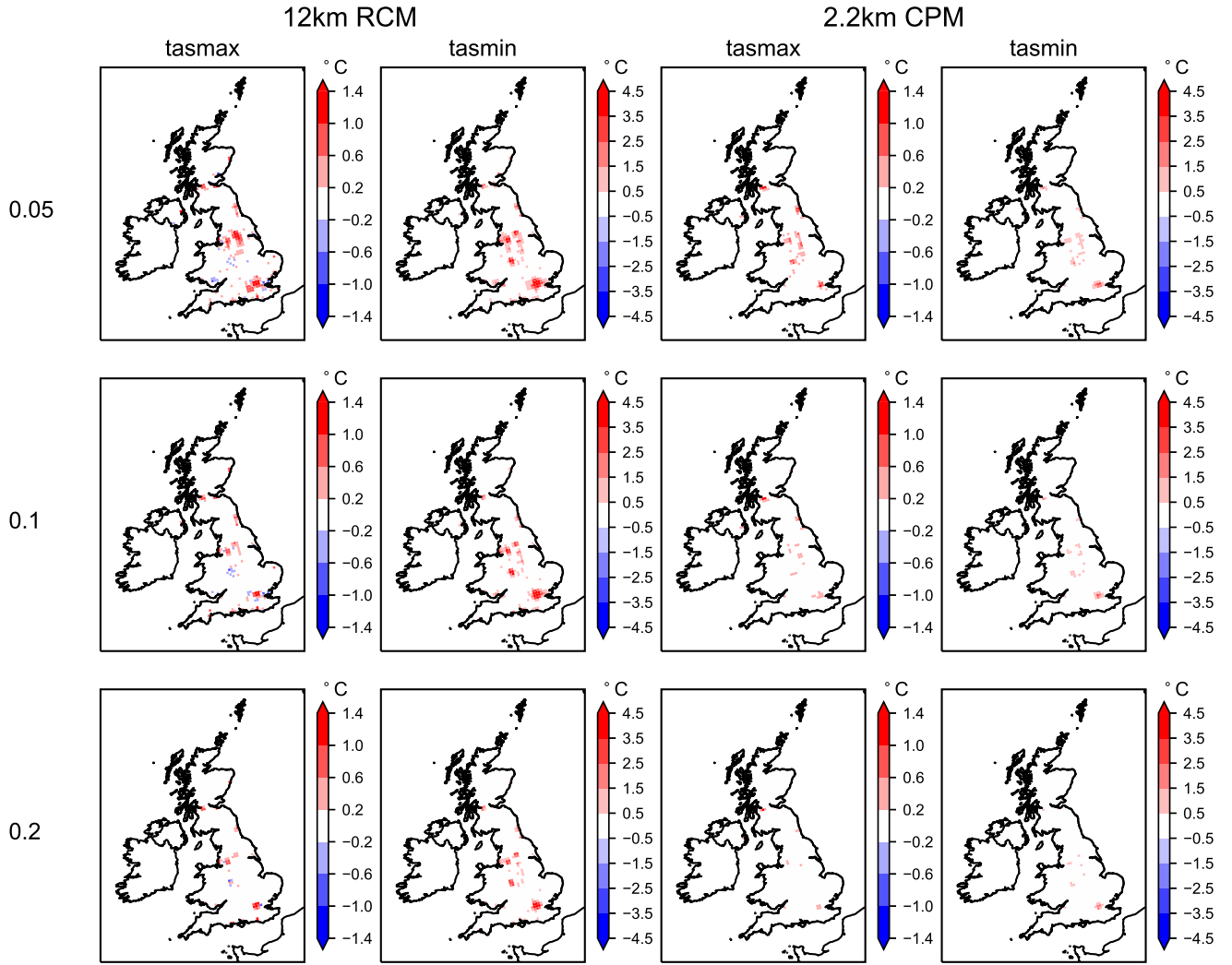


Figure S3: Sensitivity of day and night-time urban signals in the RCM (left) and CPM (right) to a halving (0.05, top) and doubling (0.2, bottom) of the urban threshold used to create the rural-reference dataset.