

Differences in hydrological impacts using regional climate model and nested convection-permitting model data

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Supplementary Material

1 Results

1.1 Baseline performance assessment

Maps of the performance measures for the 94 catchments, for SIMOBS and as the ensemble median for SIMRCM and SIMCPM (with and without bias-correction), illustrate the spatial variation in performance (Figure 1).

1.2 Future changes in flows

Plots of the distributions of flow changes for individual ensemble members show that, while there is a lot of overlap between ensemble members, there are also clear differences between them (Figure 2 and Figure 3).



Figure 1 Maps showing the four performance measures — percentage bias in low flow volume (*lfv_70-95*), median flow (*mdf*), high flow volume (*hfv_5-30*), and flood frequency (*ffr*) — for the 94 catchments for SIMOBS, the SIMRCM and SIMCPM ensemble medians ('med') without bias correction ('wobc') and the SIMRCM and SIMCPM ensemble medians with bias correction ('wbc').

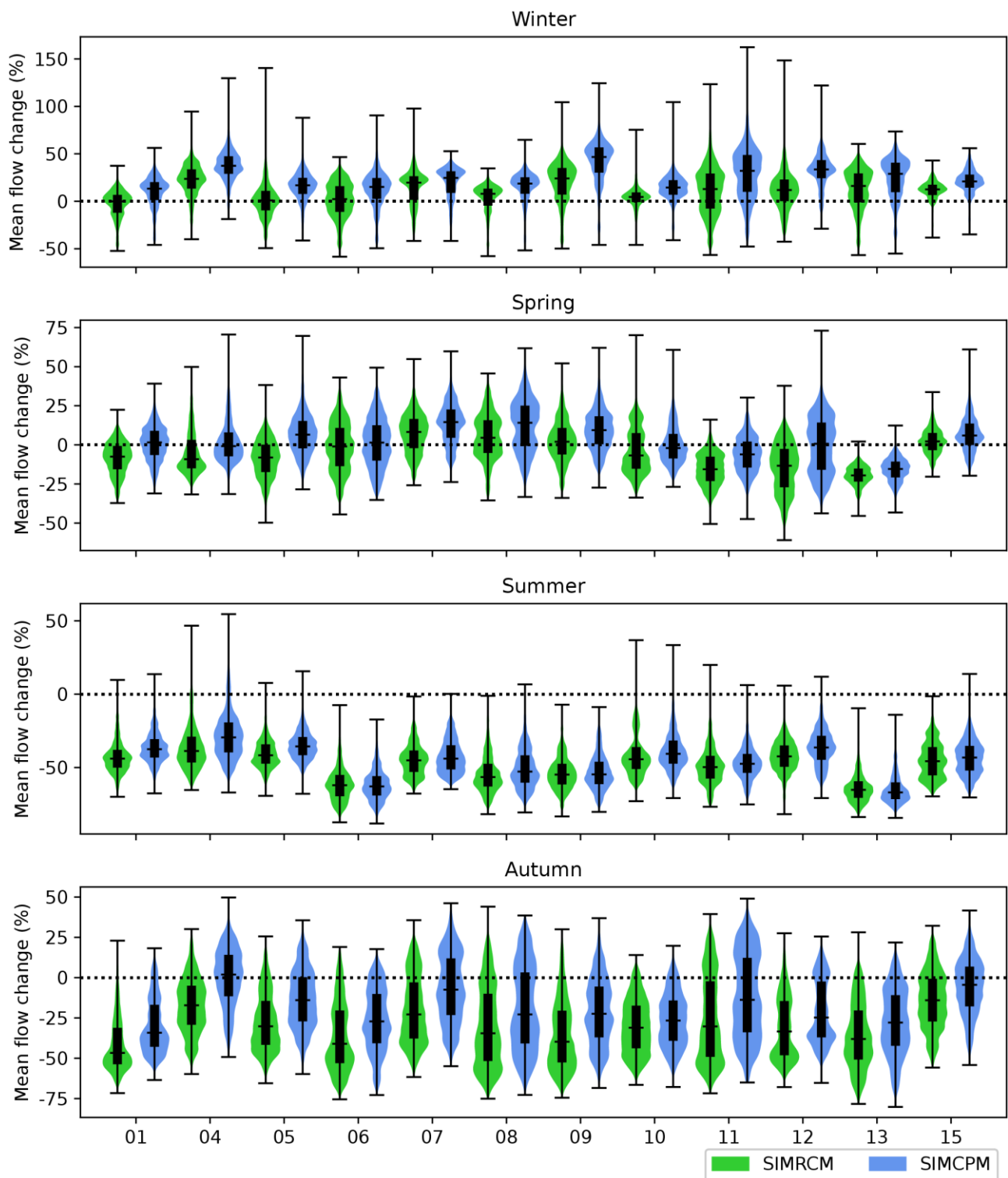


Figure 2 Violin plots showing the distribution of changes in seasonal mean flows for river pixels across GB, for the each SIMRCM ensemble member (green) and SIMCPM ensemble member (blue). In each case, the horizontal lines show the min, median and max changes, and the black box shows the 25th–75th percentile range.

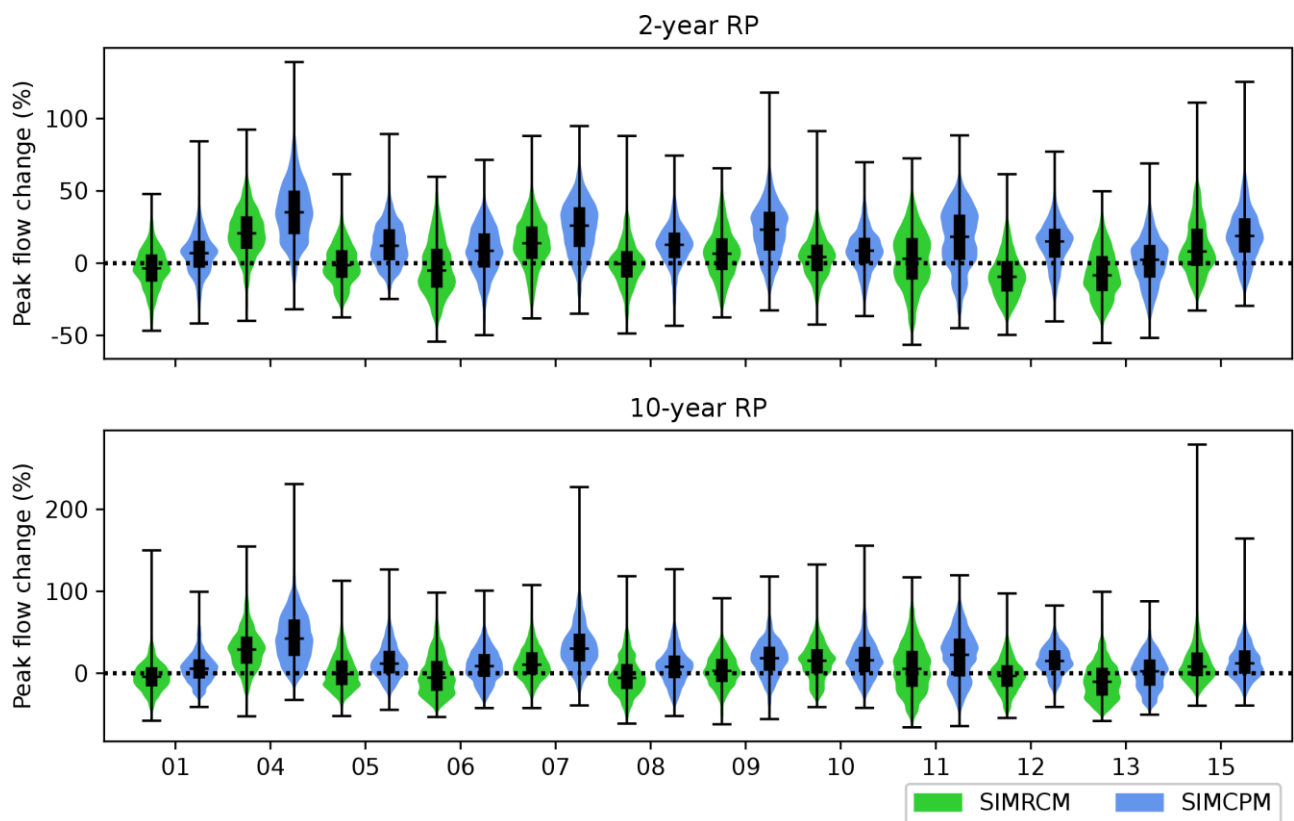


Figure 3 Violin plots showing the distribution of changes in 2- and 10-year return period peak flows for river pixels across GB, for the each SIMRCM ensemble member (green) and SIMCPM ensemble member (blue). In each case, the horizontal lines show the min, median and max changes, and the black box shows the 25th–75th percentile range.