Supporting information
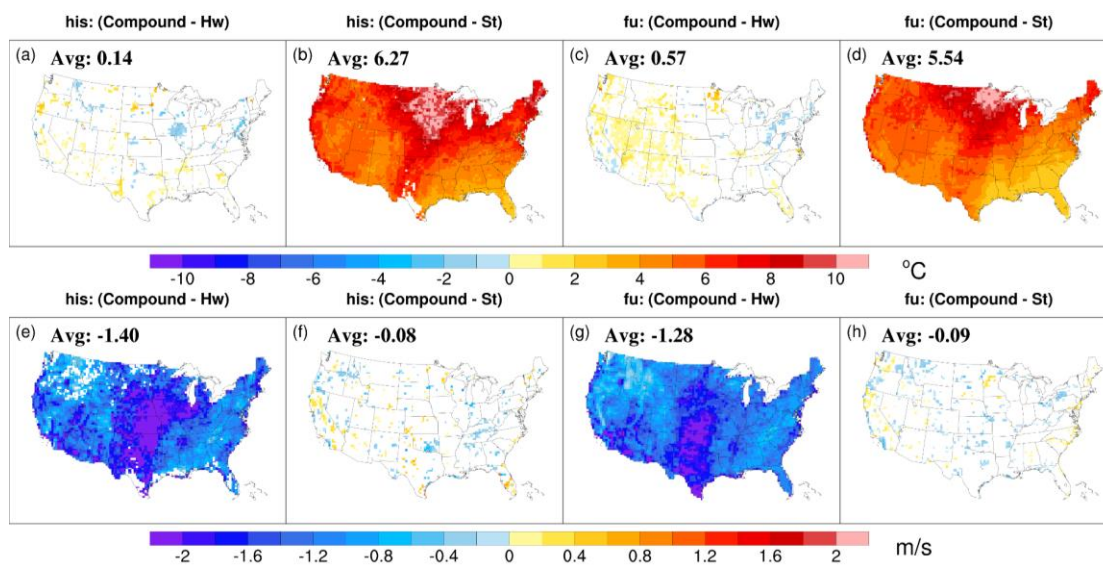
Fig. S1. Spatial distribution of the difference between compound event and single event in historical period and future period for MDA8 (top row), daily maximum temperature at 2-m (middle row) and wind speed at 10-m (bottom row). Only values with statistically significant differences (t-test: α=0.05) between the compound event and single event are shown, and the mean differences are labeled on the top left.
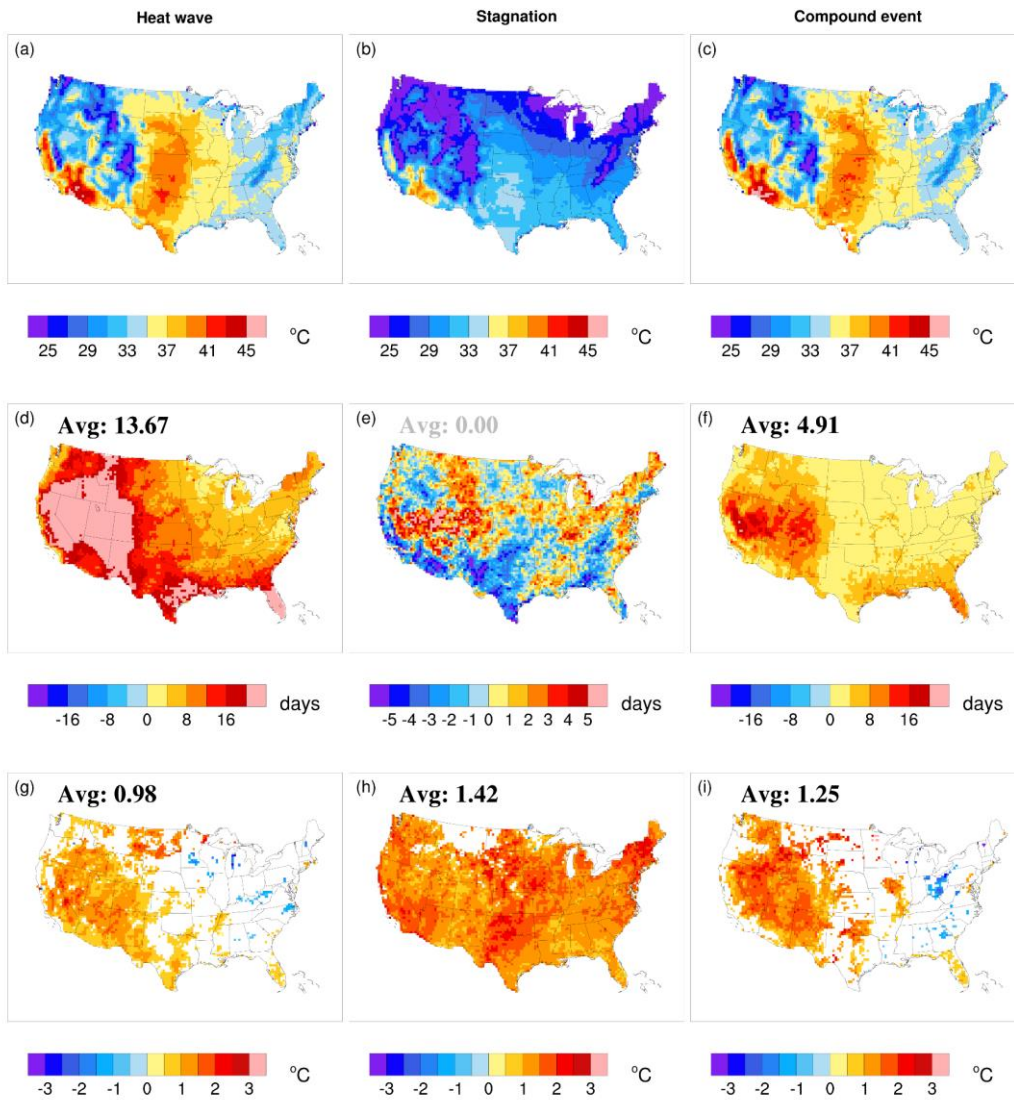
Fig. S2. Spatial distribution of daily maximum temperature at 2m during each type of extreme weather events in the historical period (top row) and the difference between future and present (bottom row). The middle row shows the change in the occurrence of each type of extreme events between future and present. In (d,e,f), a t-test (α=0.05) is performed for the occurrence averaged over the US and values that are statistically significant are shown in black. In (g,h,i), only values with statistically significant differences (t-test: α=0.05) between the future and historical periods are shown, and the mean differences are labeled on the top left.
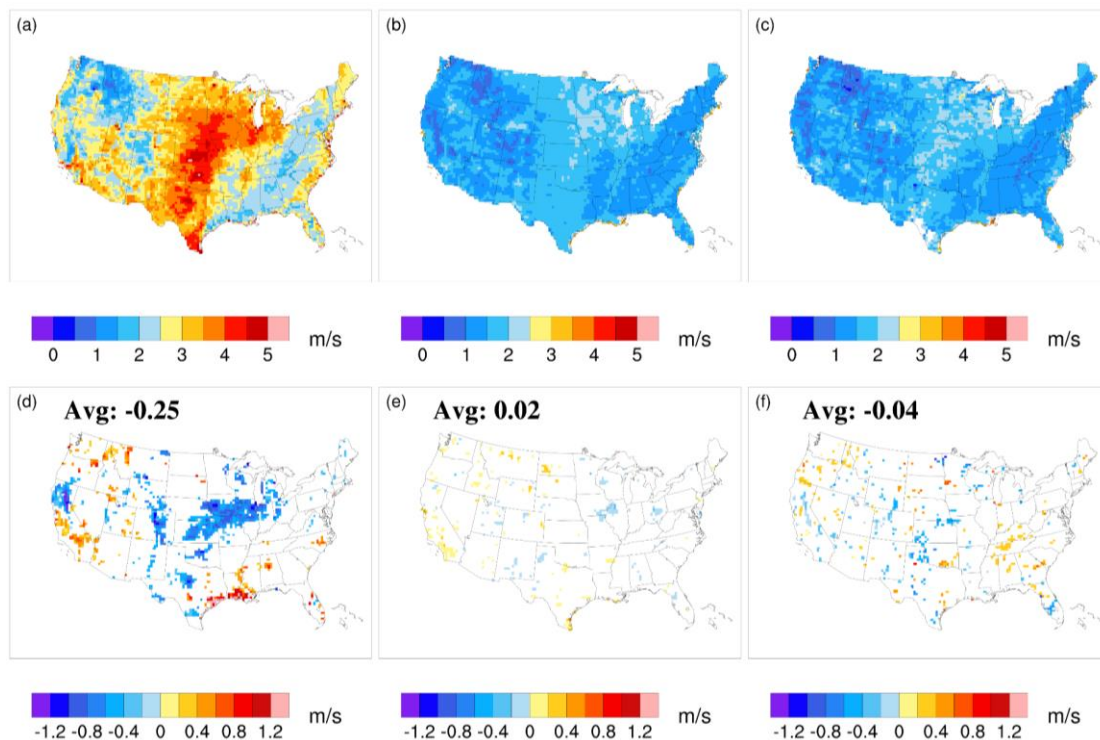
Fig. S3. Spatial distribution of 10-m wind speed during each type of extreme weather events in historical period (top row) and their future change (bottom row). In (d,e,f), only values with statistically significant differences (t-test: α=0.05) between the future and historical periods are shown, and the mean differences are labeled on the top left.
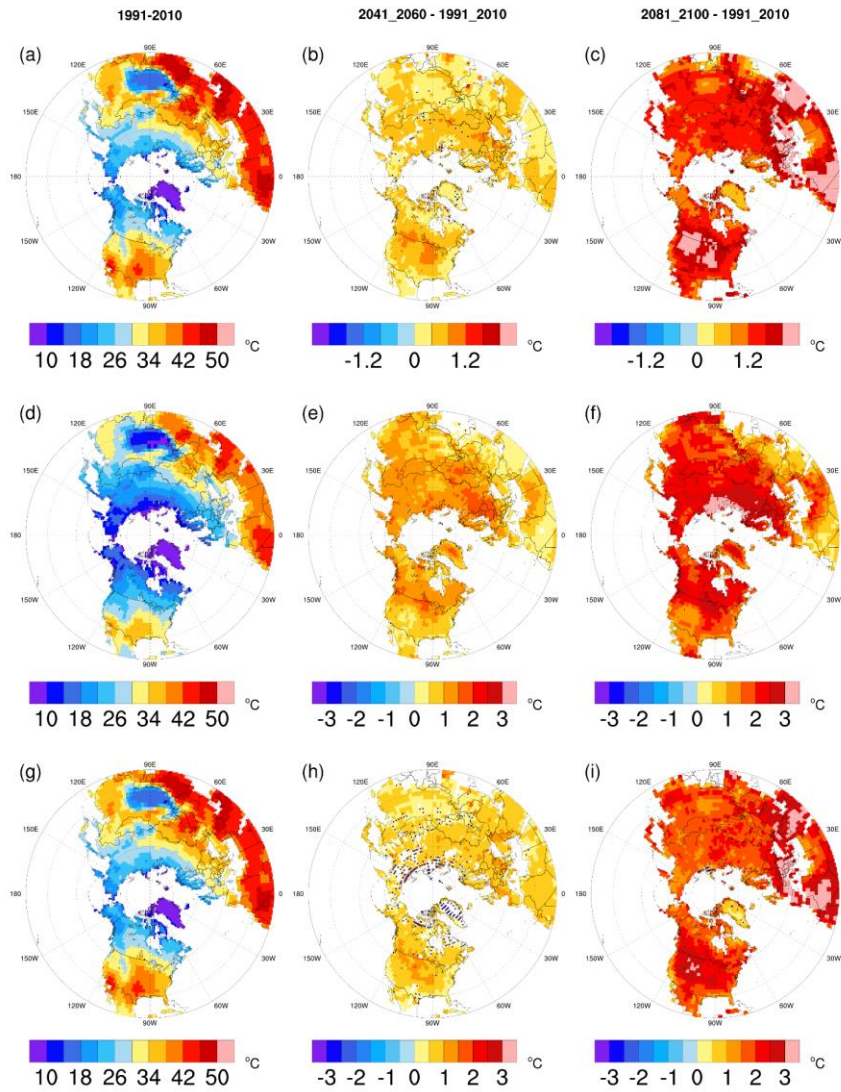
Fig. S4. Spatial distribution of historical (left column) and future changes in the mid-century (second column) and end-of-century (third column) in mean daily maximum 2-m temperature for heat waves (top row), atmospheric stagnation (middle row) and compound events (bottom row) from CMIP5 over land in the northern hemisphere north of 20º N. For the future changes, only grids showing model agreement are shown, with blue dots representing values with no statistical significance.
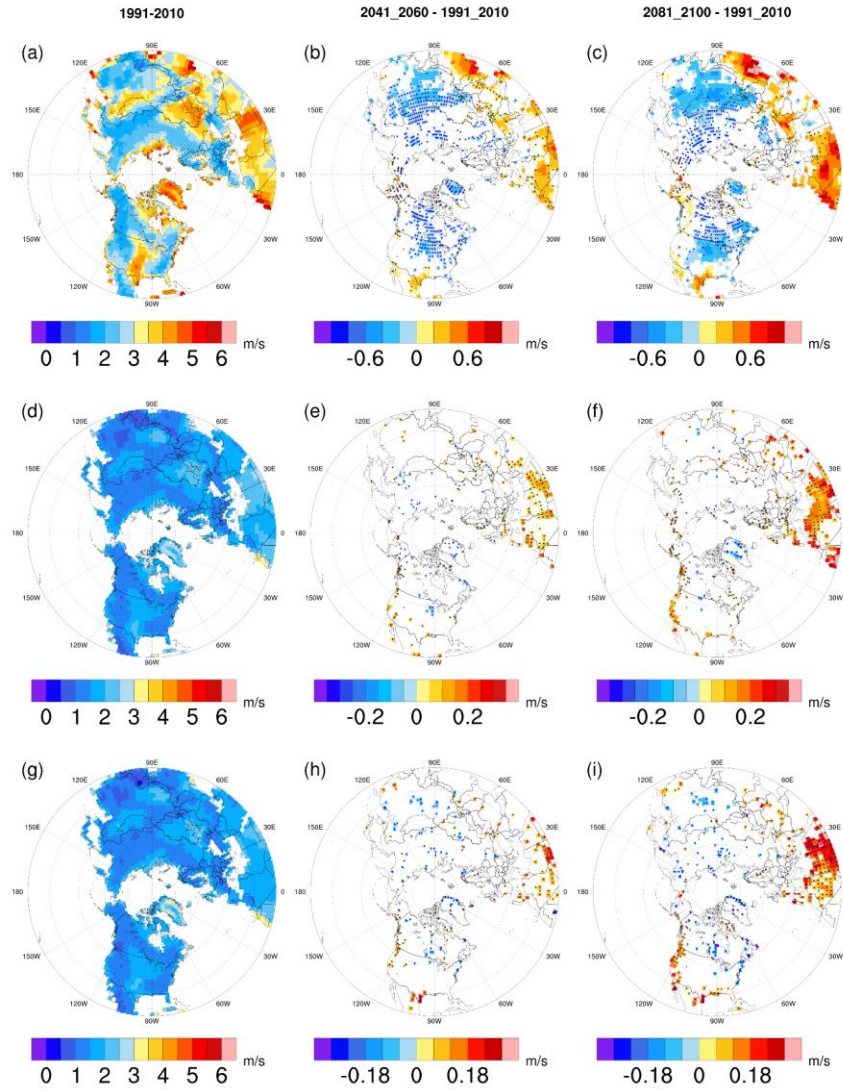
Fig. S5. Spatial distribution of historical (left column) and future changes in the mid-century (second column) and end-of-century (third column) in the mean 10-m wind speed for heat waves (top row), atmospheric stagnation (middle row) and compound events (bottom row) from CMIP5 over land in the northern hemisphere north of 20º N. For the future changes, only grids showing model agreement are shown, with blue dots representing values with no statistical significance.