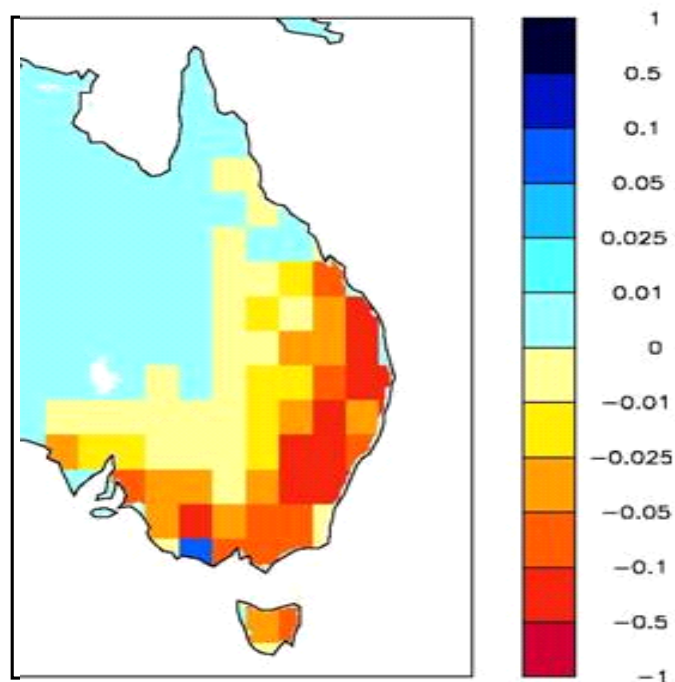
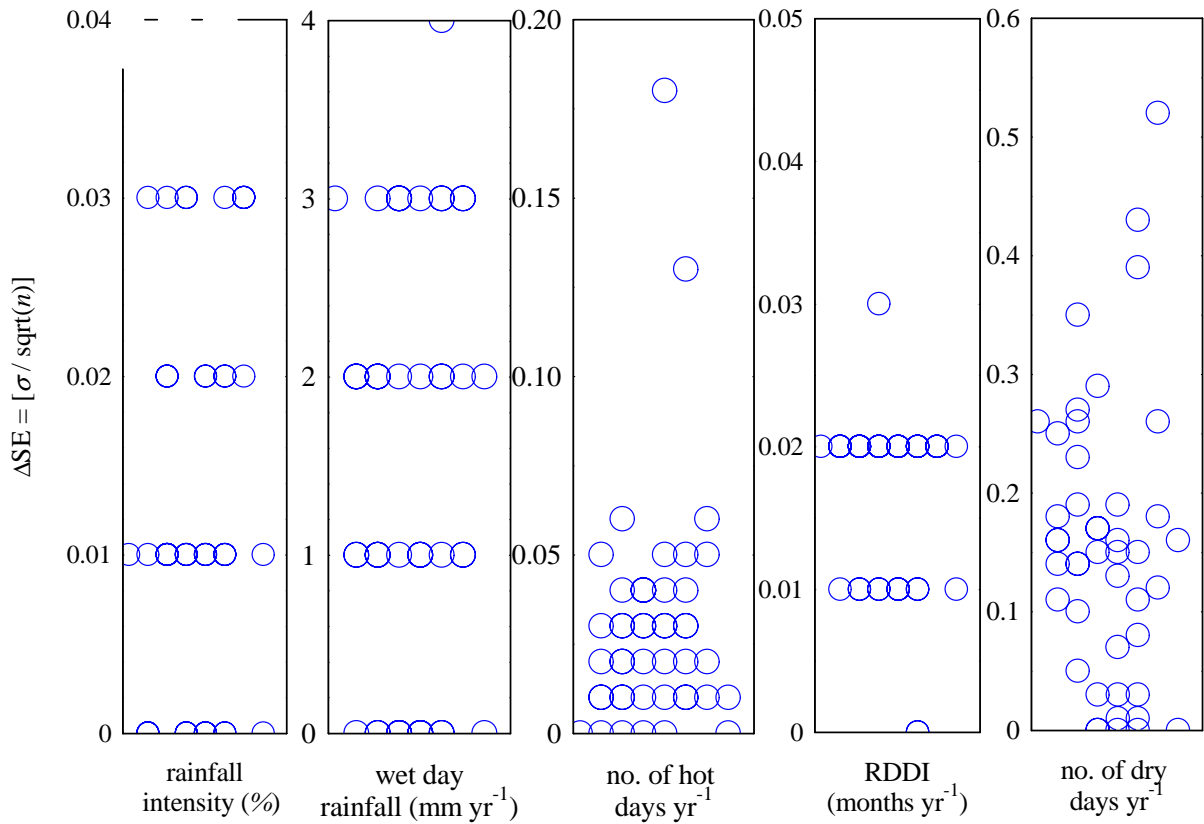


## Auxiliary Figures

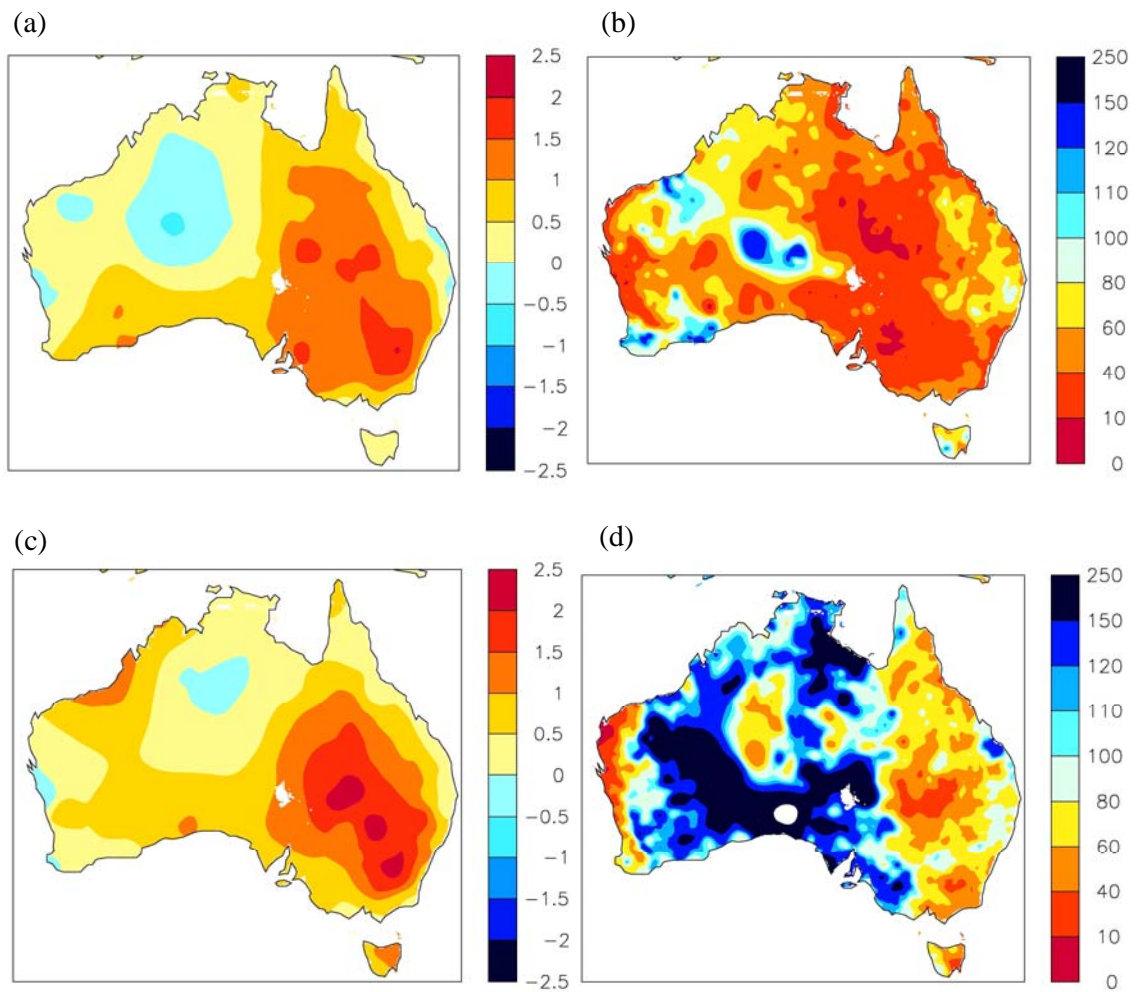


**Auxiliary Figure S1:** Land cover map showing the changes in vegetation fraction used in the CSIRO climate system model. Changes are for modern day conditions compared to pre-European conditions.

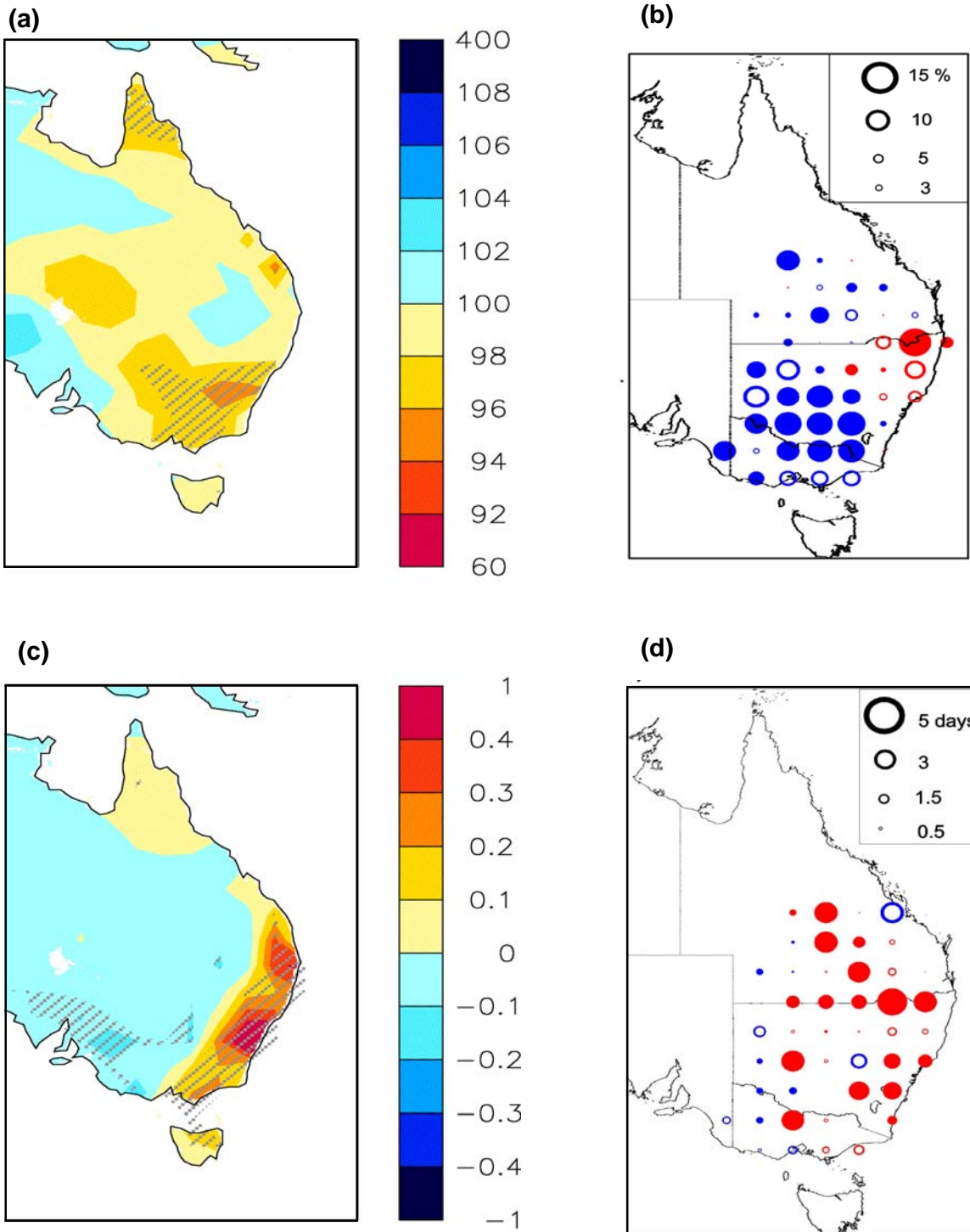


indices are plotted longitudinally

**Auxiliary Figure S2:** A statistical assessment of the variance in daily indices of climate extremes derived from ensemble of  $n$  model runs. Variances are calculated from the differences in standard error ( $\Delta SE = \sigma / \sqrt{n}$  where  $\sigma$  is the standard deviation and  $n = 10$ ) of pre-European and modern day vegetation conditions and axis are representative of longitudinal gradients running west to east.



**Auxiliary Figure S3:** The observed anomalies in Australian climate during the November to March (summer) period for (a) 1982/83 surface temperature, (b) 1982/83 rainfall, (c) 2002/03 surface temperature, and (d) 2002/03 rainfall. The anomalies are shown as departures from 1951-2003 climatology.



**Auxiliary Figure S4:** The simulated changes in annual mean climate and daily indices of climate extremes for the period 1951-2003 from pre-European to modern-day land cover conditions: (a) mean annual rainfall (% change), (b) daily rainfall intensity, (c) mean surface temperature ( $^{\circ}\text{C}$ ), and (d) number of hot days  $\text{yr}^{-1}$ .