Supplementary Material for “Future changes in seasonality in Eastern Africa from regional simulations with explicit and parametrised convection”

Caroline M. Wainwright, John H. Marsham, David P. Rowell, Declan L. Finney, Emily Black

Supplementary Material:
- Figures S1-S7

Figure S1: Mean onset and cessation dates for the present-climate simulation from CP4 (left) and P25 (right). Onset and cessation dates were calculated for each year and averaged over the 10 year simulation.
Figure S3: Mean annual cycle of precipitation (a), surface MSE (b), and the components of surface MSE: $L_q$ (c) and $c_pT$ (d), for the present-climate CP4 and P25 simulations. The grey dot-dash lines show the difference between CP4 and P25.

Figure S2: Future-climate minus present-climate change in onset/cessation dates for the short rains for P25. Stippling indicates where the change is significant at the 10% significance level (paired difference test).
Figure S4: Changes in the January-February (JF) dry season.  

a-b) The ratio of mean daily rainfall in JF to mean daily rainfall in November (N) in P25 under present-climate (a) and future-climate (b). 

c) shows the change in ratio from present- to future-climate for P25 (b minus a). 

d) The ratio of mean rainfall in JF in the future-climate simulation to mean rainfall in November in the present-climate simulation for P25. 

e-f) The mean annual cycle in precipitation over two regions in western and southern Kenya (region shown in c-d) for the present- and future-climate simulations for CP4 and P25, and observations from TAMSATv3.
Figure S5: Future-climate minus present-climate mean change in January and February rainfall in CP4 (top) and P25 (bottom).
Figure S6: CP4-P25 difference in the future-climate minus present-climate mean change in mean daily rainfall in each calendar month.
Figure S7: Ratio of the mean daily rainfall in different seasons for P25 under present-climate (a,d,g) and future-climate (b,e,h), and the future minus present change (c,f,i). a-c) Ratio of mean rainfall in June-September (JJAS) to mean rainfall in March-May (MAM). d-e) Ratio of mean rainfall in JJAS to mean rainfall in October-December (OND). g-i) Ratio of mean rainfall in MAM to mean rainfall in OND.