

Supplemental materials to **ATMOSPHERIC TROPICAL MODES ARE IMPORTANT DRIVERS OF SAHELIAN SPRINGTIME HEATWAVES.**

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This document provides supplementary figures to the main manuscript.

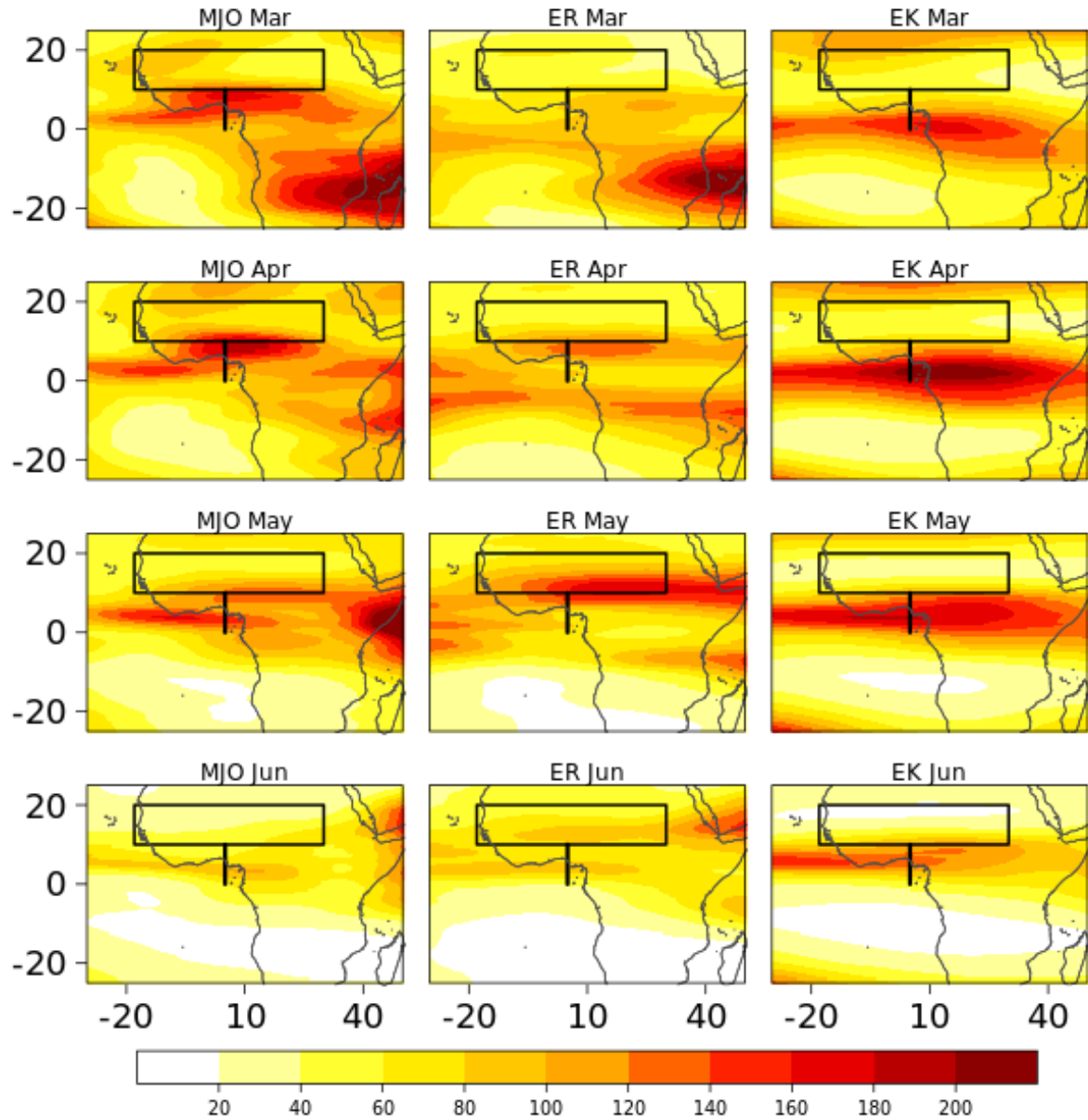


Fig. SM1. Seasonality of the variance (in W^2m^{-4}) of mode-filtered OLR data during MAMJ. The rectangular box delimits the Sahel region. The vertical line marks the reference longitude (5°E) and latitudinal band over which the local activity of tropical modes is characterised (see Section 2-3).

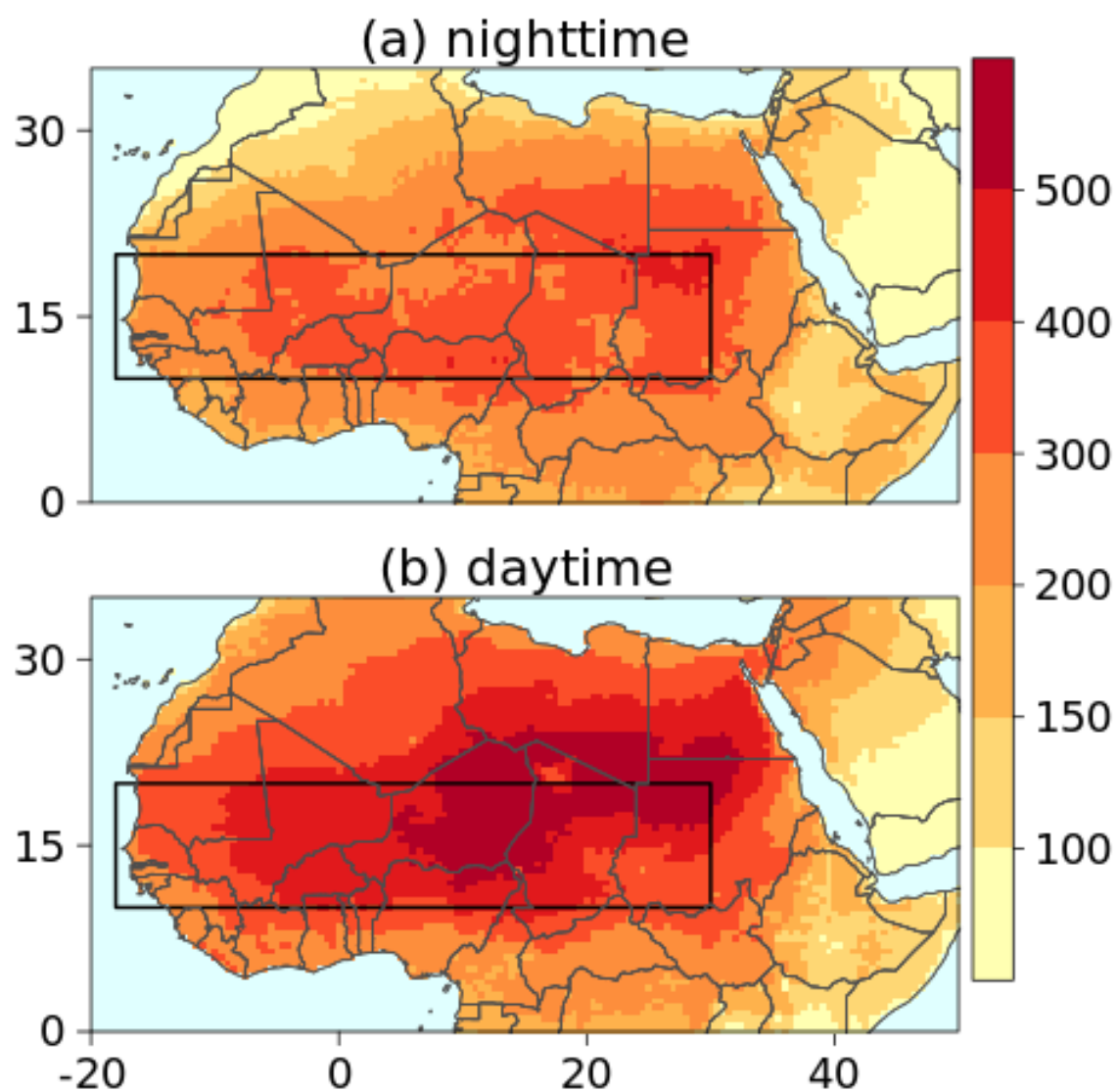


Fig. SM2. Total number of (a) nighttime and (b) daytime heatwave days during MAMJ over the study period (1980-2017). The rectangular box delimits the Sahel region.

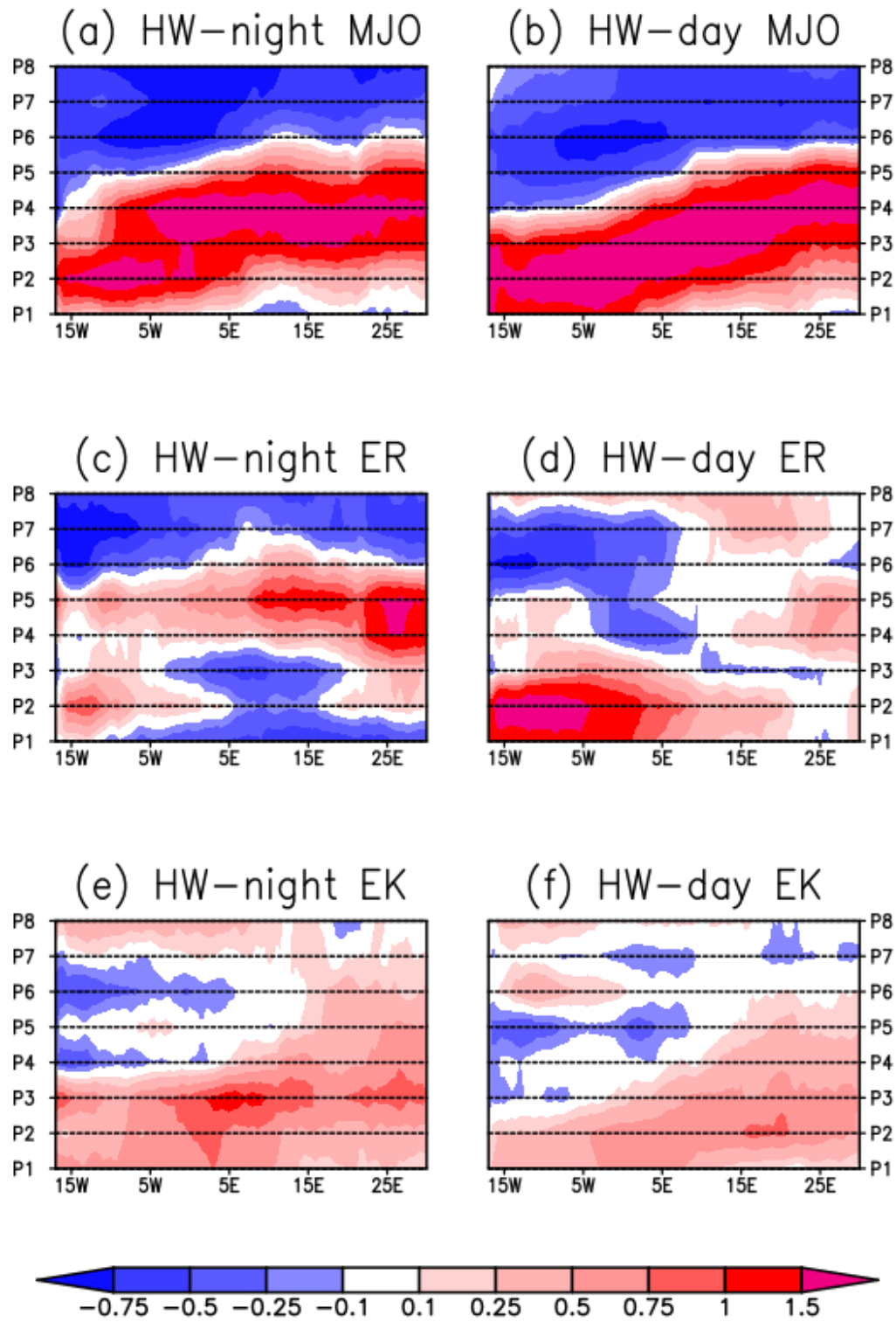


Fig. SM3. Same as Fig. 3 in the main manuscript except using a minimum amplitude of 2 for active tropical mode detection.

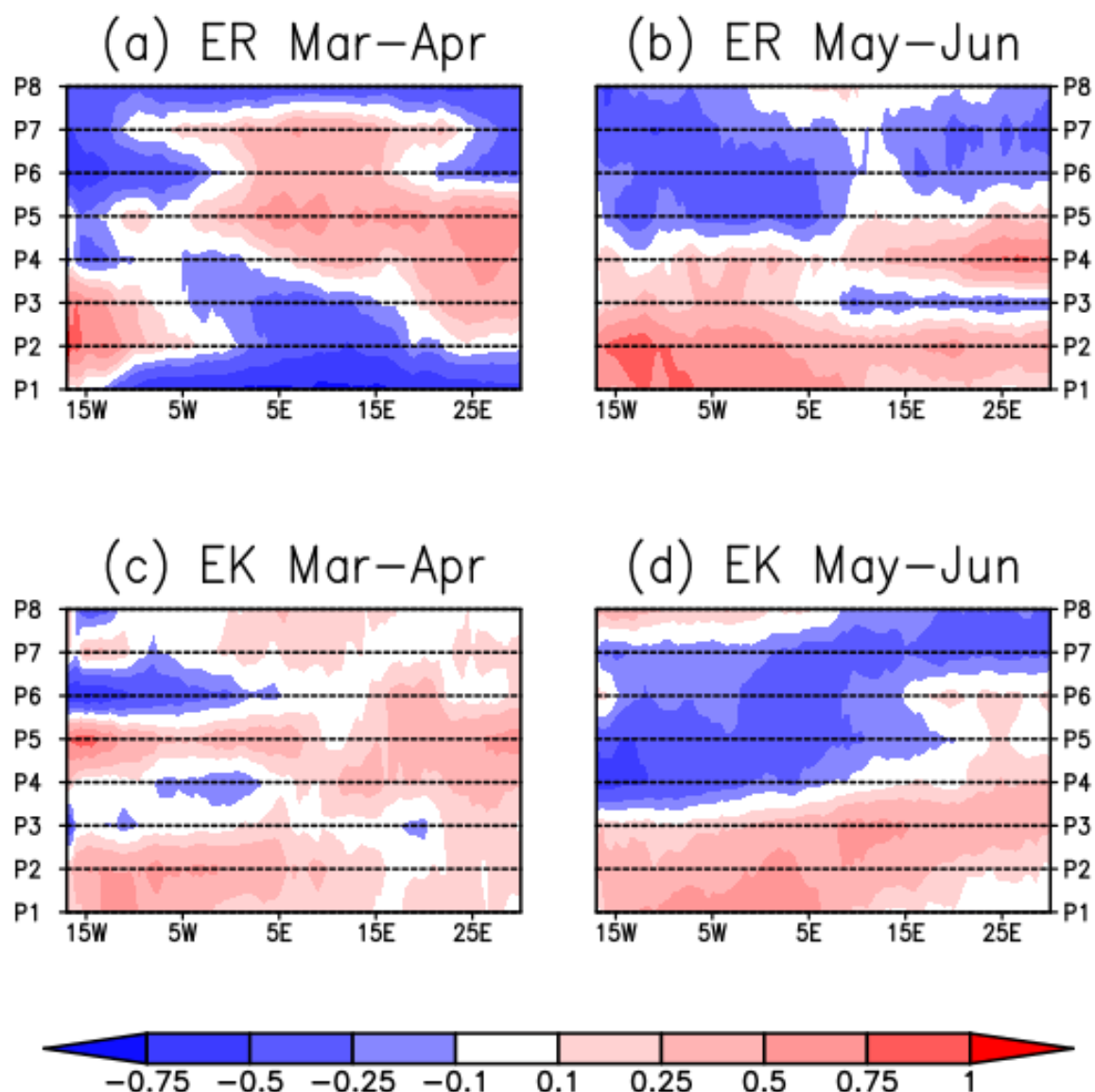


Fig. SM4. Seasonality of the modulation of nighttime heatwave probability of occurrence by (top panels) ER and (bottom panels) EK waves. The left panels show the modulation for March-April, and the right panels that for May-June.

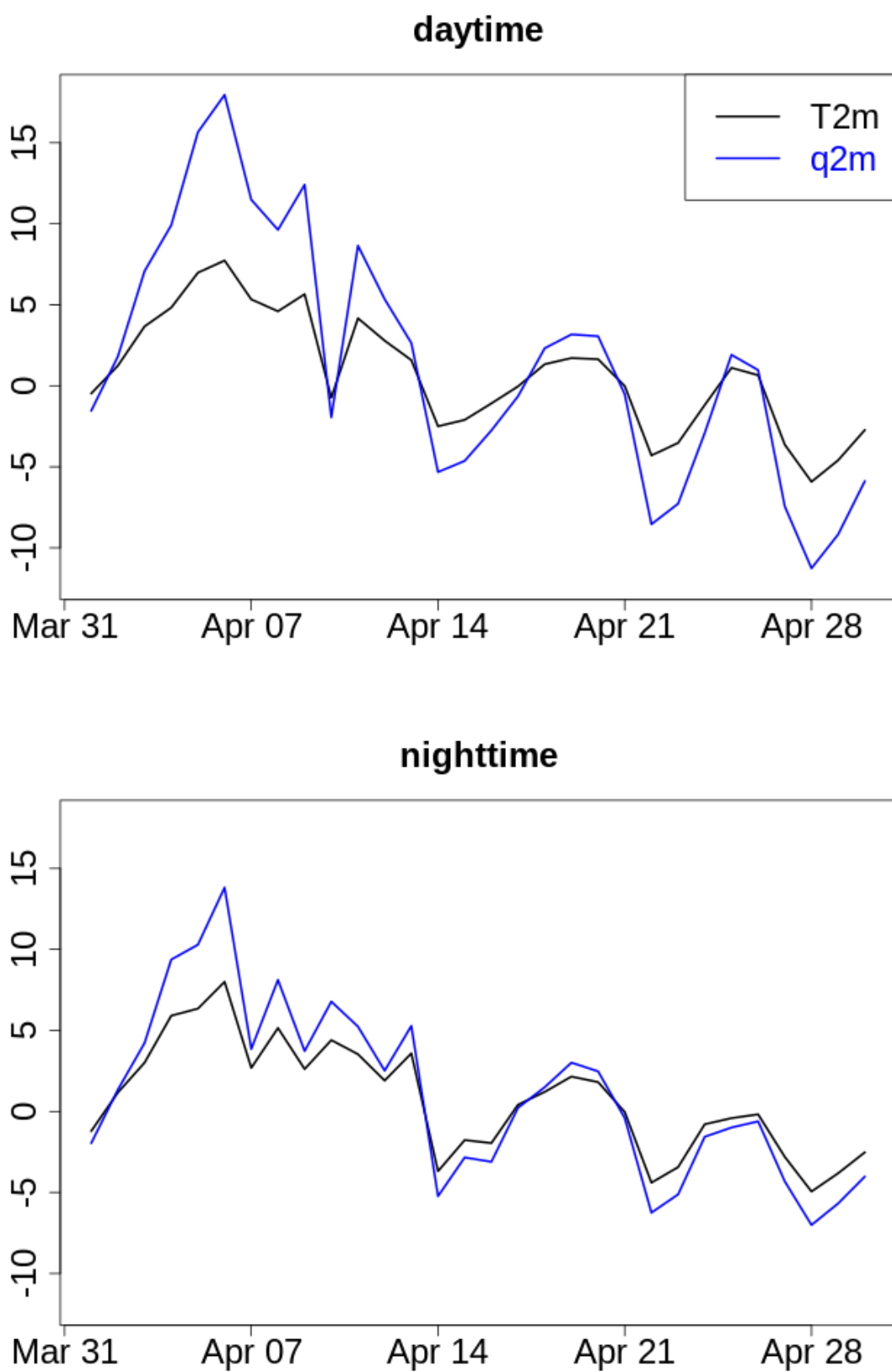


Fig. SM5. Anomalies of 2m temperature (K) and relative humidity (%) observed at the Demokeya station (30.5°E-13.3°N) in April 2003.

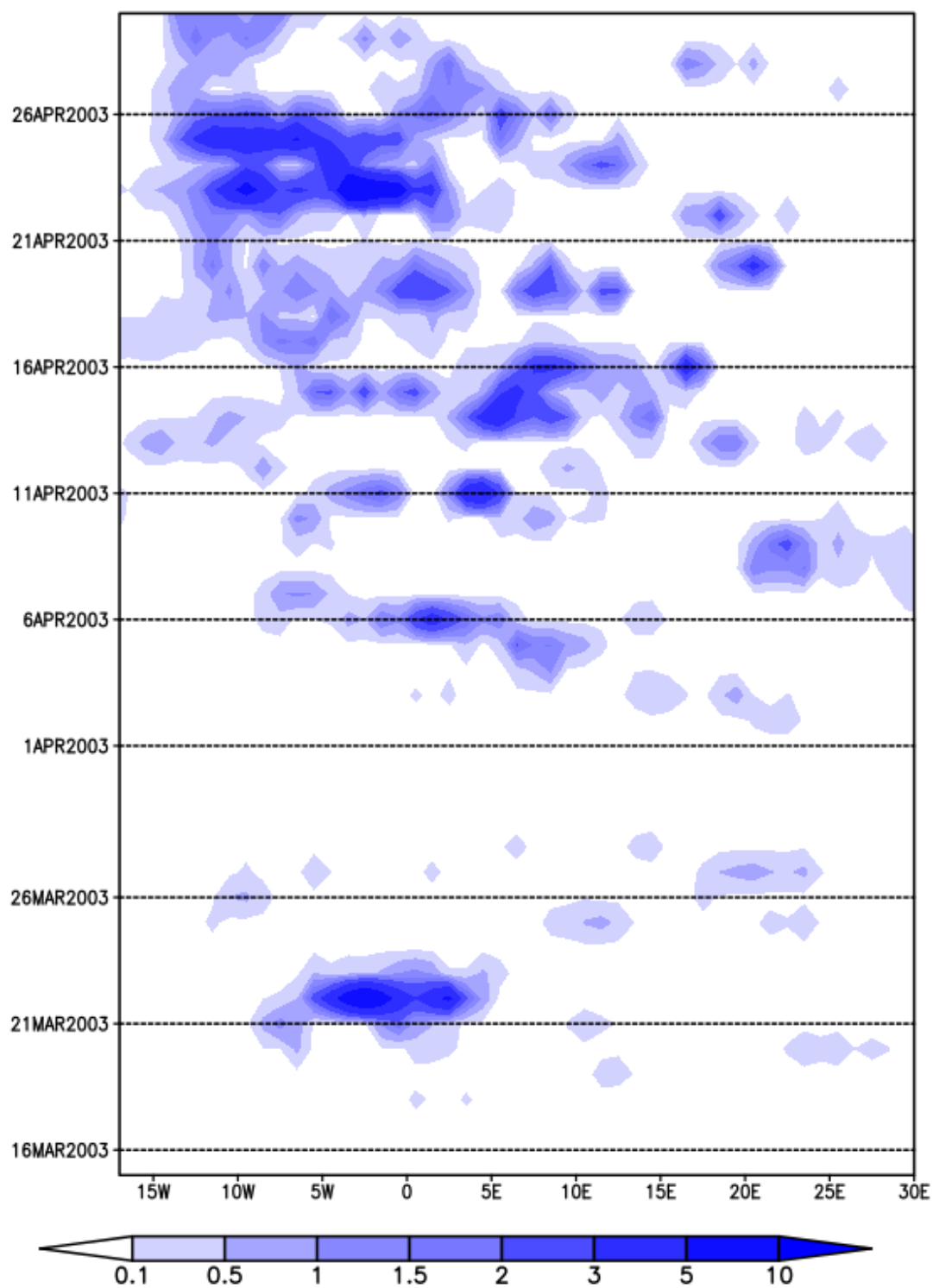


Fig. SM6. Time-longitude diagram of GPCP daily precipitation in mm averaged over the 10°N-20°N latitudinal band between 15 March and 30 April 2003.

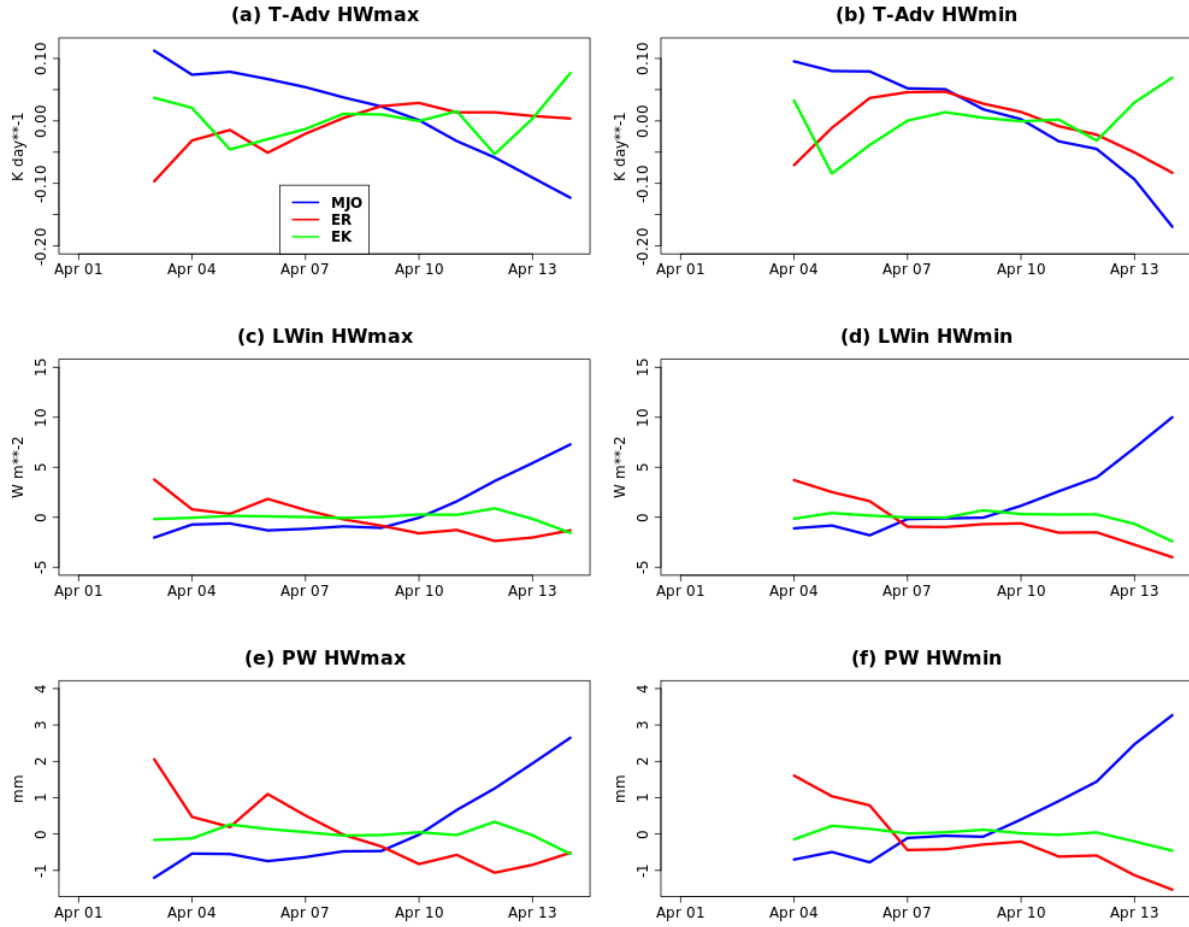


Fig. SM7. Daily evolution of mode-regressed values of (a & b) heat advection in K day^{-1} , (c & d) incoming longwave radiation at the surface in W m^{-2} and (e & f) precipitable water in mm averaged over grid-cells which are part of the heatwave. The MJO regressed variables are in blue, that of the ER wave in red and that of the EK wave in green.