

*The following supplement accompanies the article*

# **Effects of land use changes on climate in the Greater Horn of Africa**

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**Supplement.** Additional figures

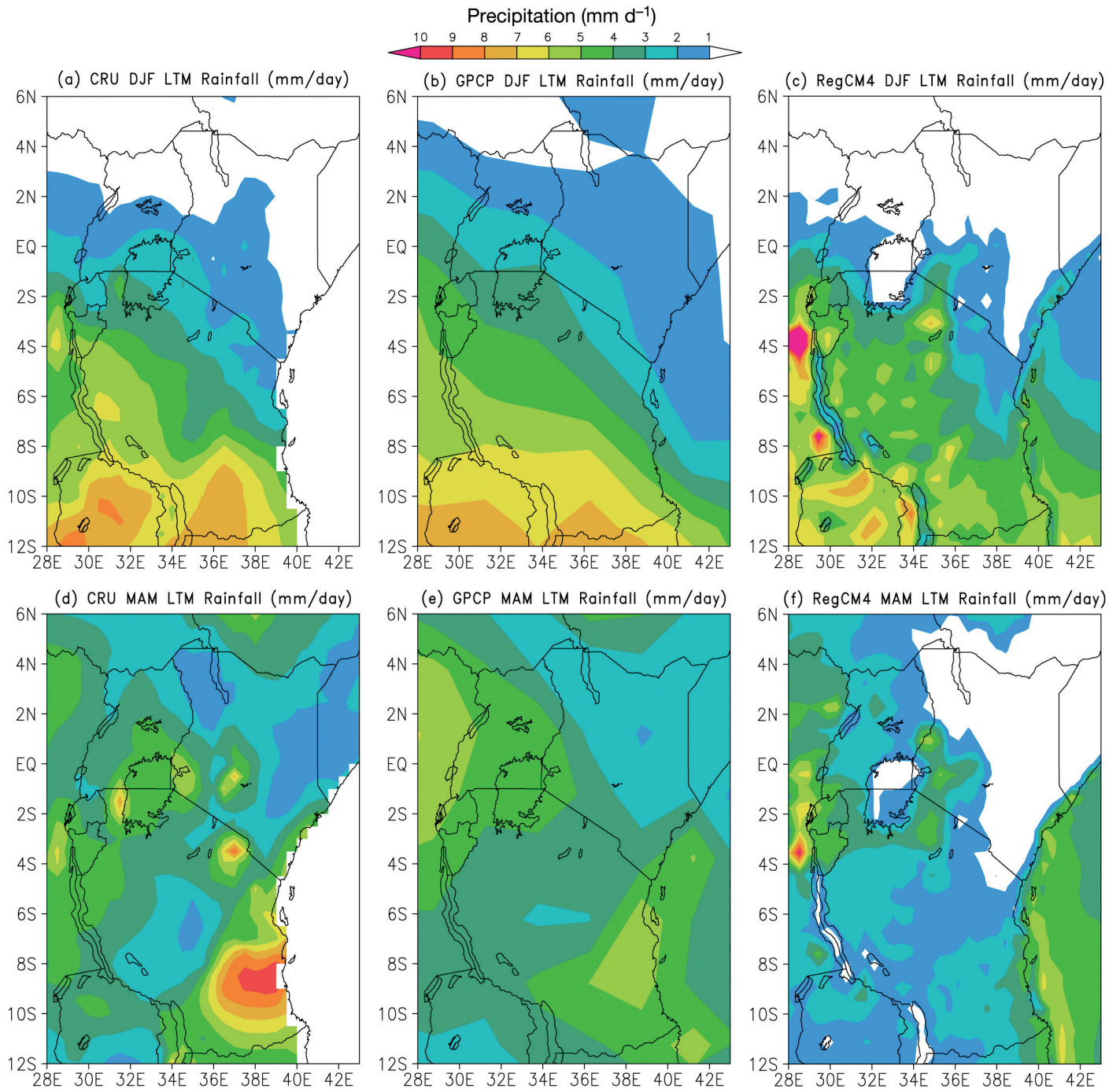


Fig. S1. Mean seasonal precipitation ( $\text{mm d}^{-1}$ ) for RegCM4 and observations (GPCP and CRU datasets, see Section 2.2) during the rainy seasons for (a) CRU JF, (b) GPCP JF, (c) RegCM4 JF, (d) CRU MAM, (e) GPCP MAM, (f) RegCM4 MAM (g) CRU JJA, (h) GPCP JJA, (i) RegCM4 JJA, (j) CRU OND, (k) GPCP OND and (l) RegCM4 OND. CRU data are not available over the ocean

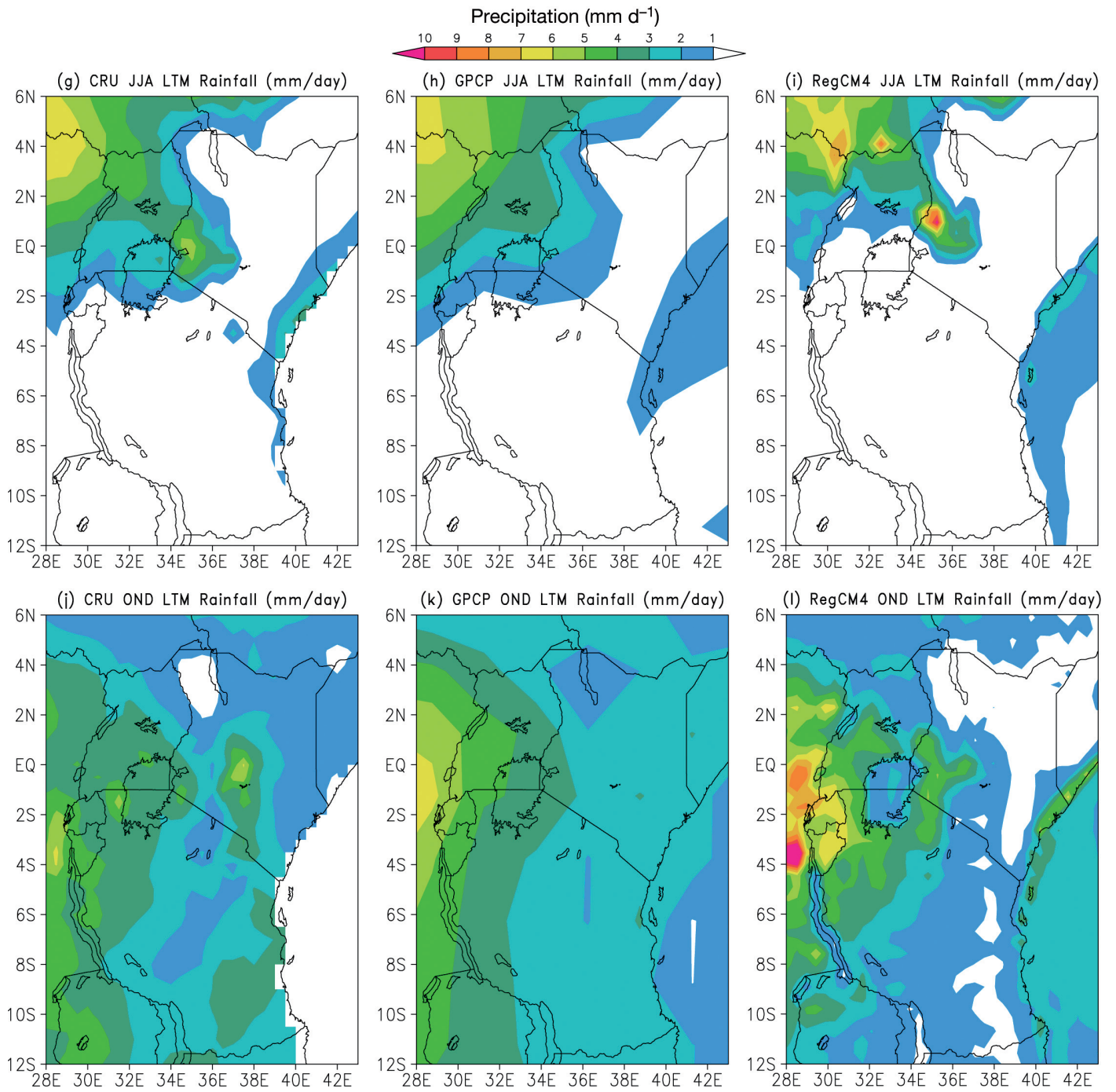


Fig. S1 (continued)

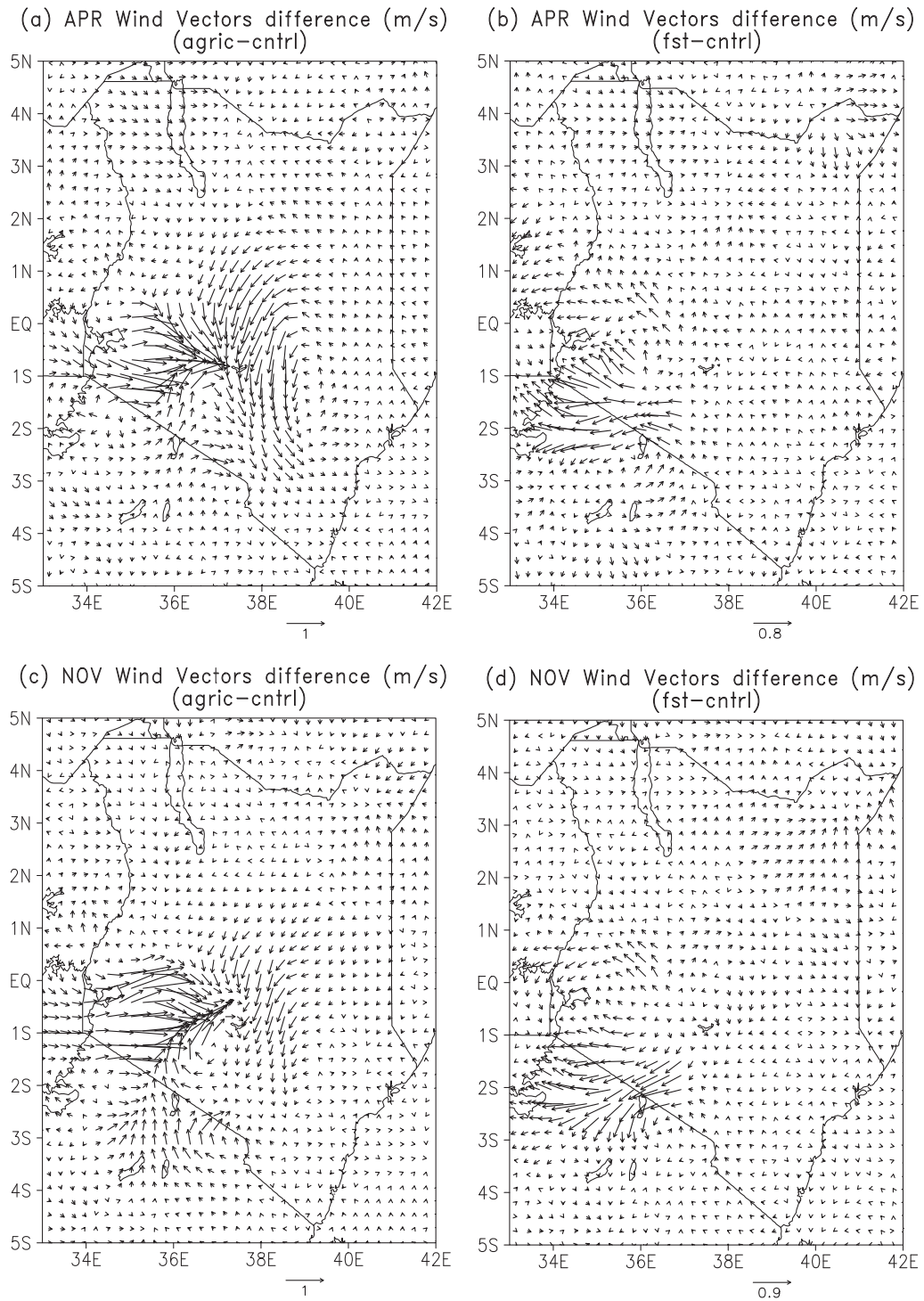


Fig. S2. Simulated 1991–2000 wind vector and moisture flux divergence at 950 mb for (a) April, agriculture minus control, (b) April, forest minus control, (c) November, agriculture minus control, and (d) November, forest minus control



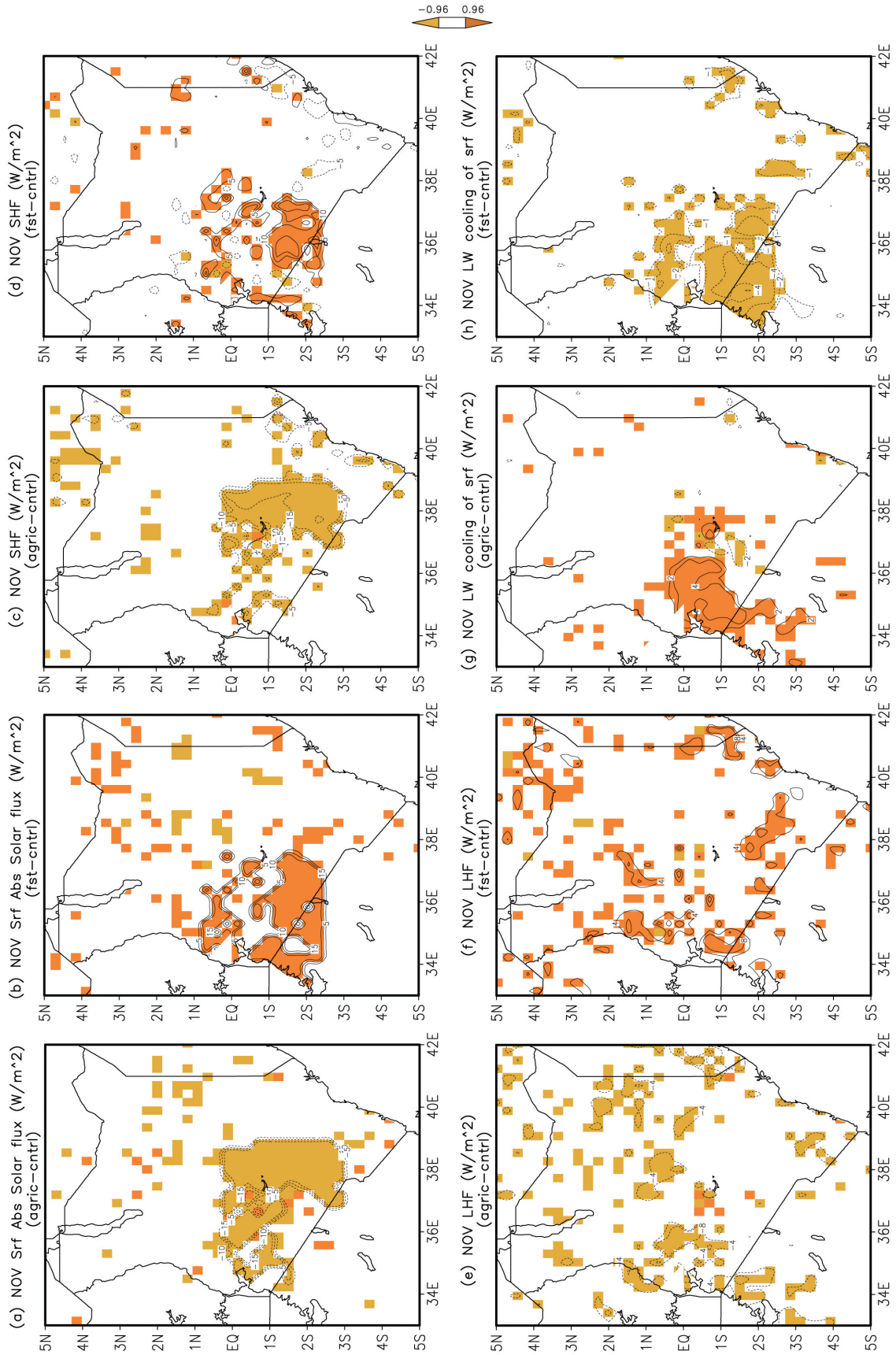


Fig. S3. Changes in different sensitivity experiments: surface absorbed solar flux for (a) agric - cntrl, (b) fst - cntrl; sensible heat flux for (c) agric - cntrl, (d) fst - cntrl; latent heat flux for (e) agric - cntrl, (f) fst - cntrl; surface long-wave cooling rate for (g) agric - cntrl, (h) fst - cntrl, for the month of November

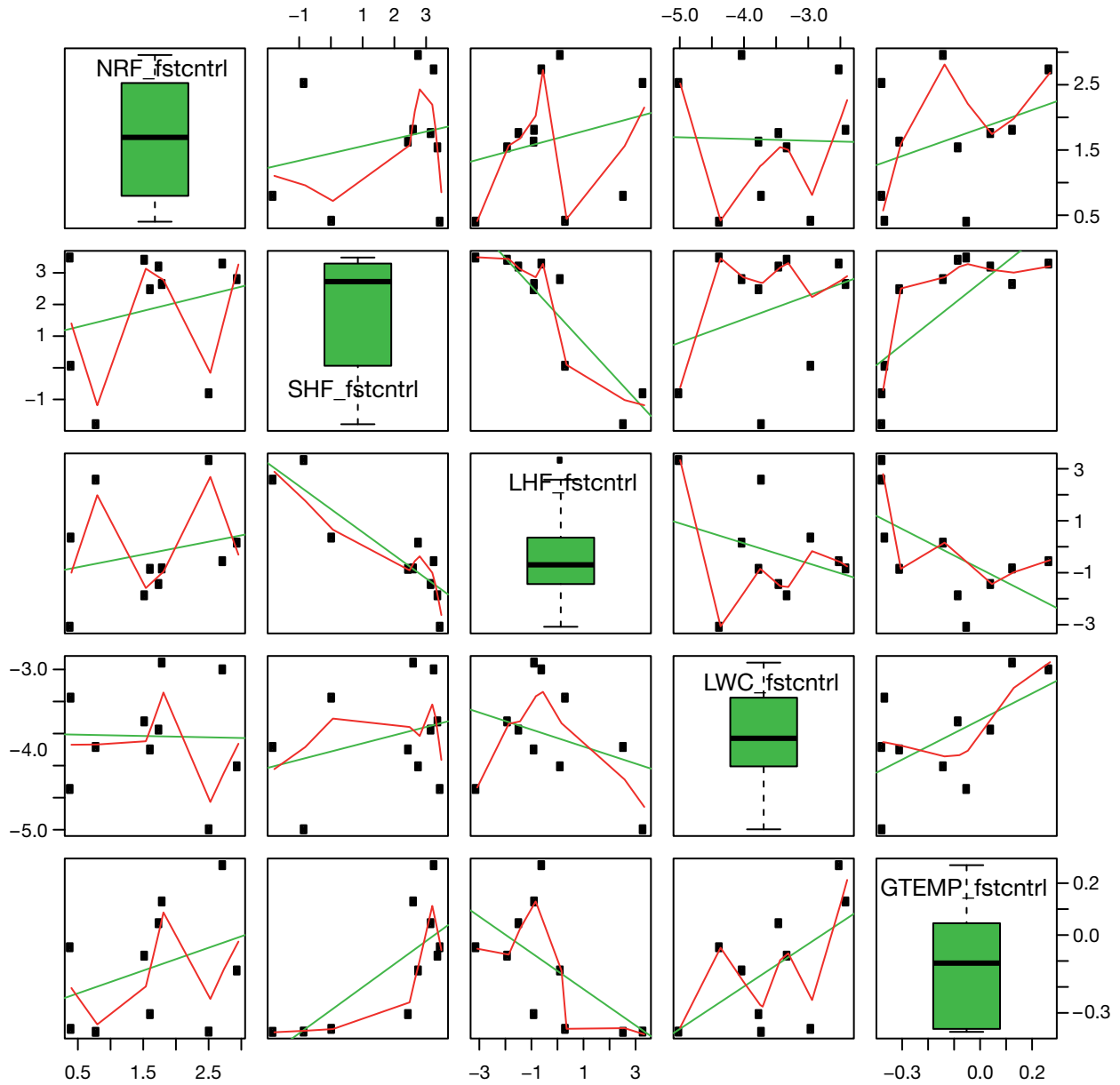


Fig. S4. Relationship of net flux radiation (NRF), sensible heat flux (SHF), latent heat flux (LHF), long-wave cooling (LWC) and ground temperature (GTEMP). The relationships are for November differences between the control and forest runs