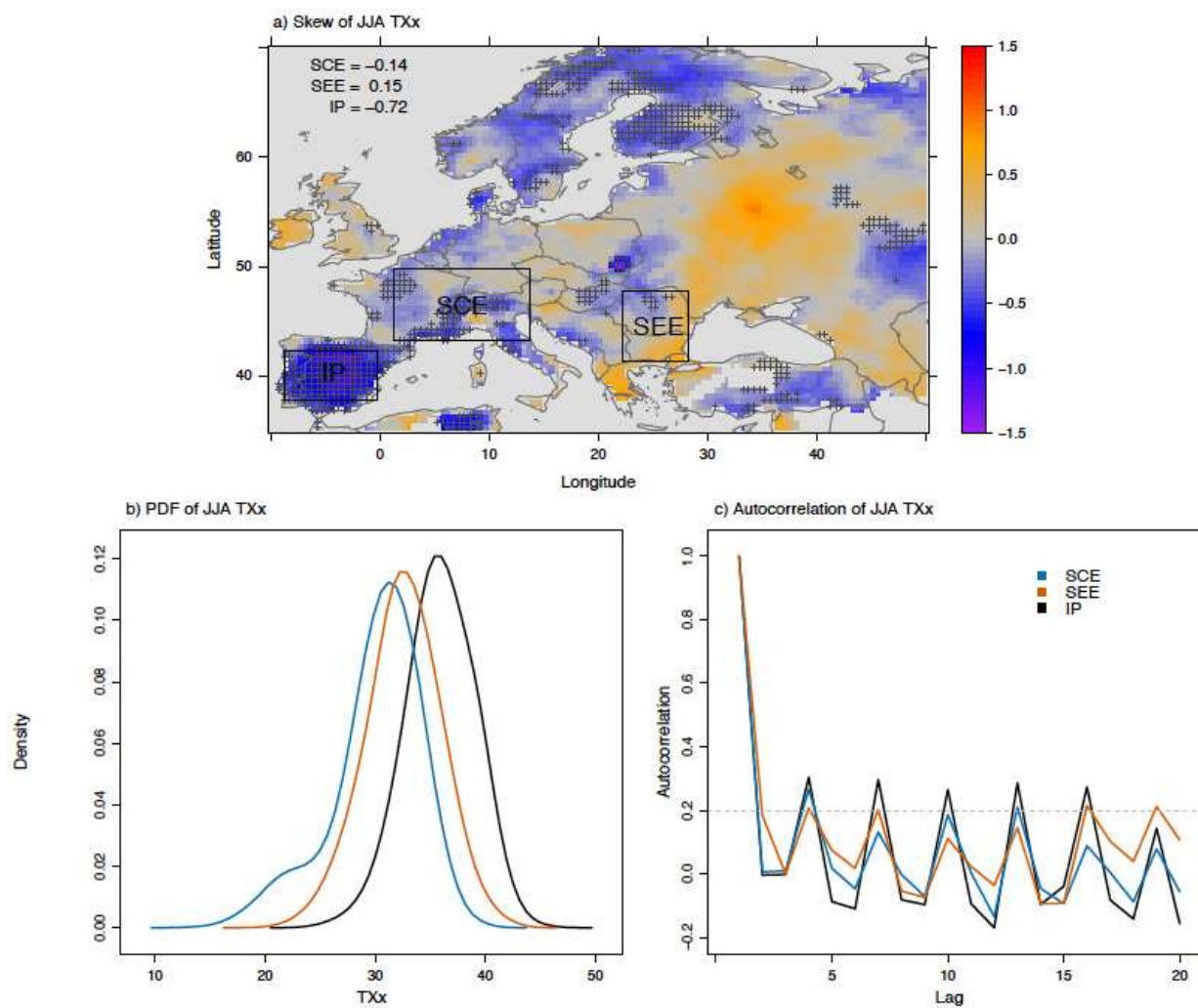# Supplementary Material

Figure S1. a) The skew of summer TXx in Europe, with the regional averages for southern-central Europe (SCE), southeastern Europe (SEE) and the Iberian Peninsula (IP) marked. b) The probability density function and c) autocorrelation of summer TXx in SCE (blue), SEE (orange) and the IP (black).
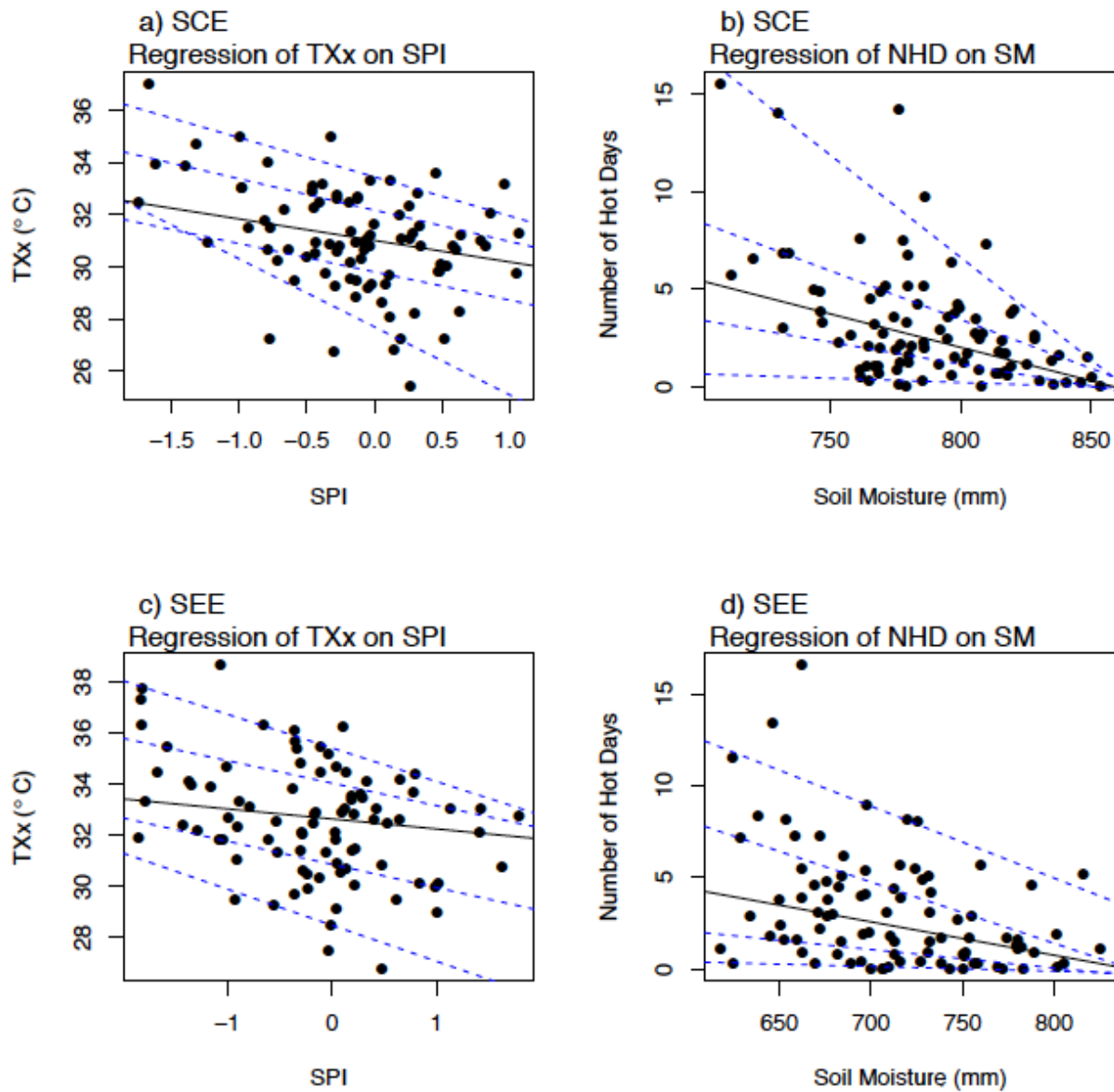
Figure S2. The relationship between summer regionally averaged values of TXx with monthly SPI-3 (i.e. accumulated over 3 months) (a, c), and monthly NHD with SM (b, d). The regression lines for the 5th, 25th 75th and 95th percentiles (dashed) and median (solid) marked. The regions shown are southern-central Europe (SCE: a, b) and Southeast Europe (SEE: c, d).
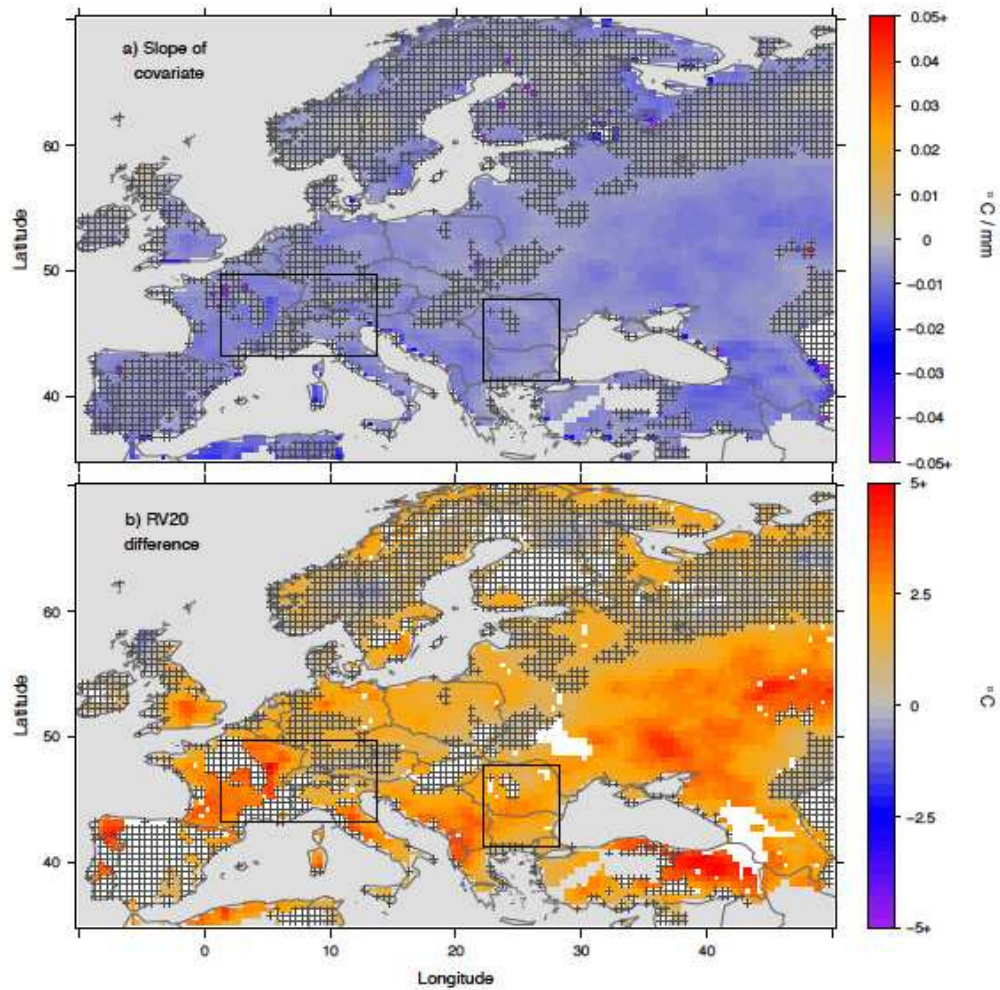
Figure S3. a) The slope of the location parameter, β_1, (°C/mm) in the non-stationary GEV model of extreme temperature with soil moisture from ERA-Land as a covariate (M_{ERA}). b) The difference in RV20 (°C) between dry (10th percentile) and wet (90th percentile) soil moisture regimes from M_{ERA}. Stippling indicates regions where either the GEV is not a good fit for extreme temperature or soil moisture is not a significant covariate.