Figure S1. Seasons with highest and lowest NWL on average according to EC data from FLUXNET2015 (a, b) and to the multi-model mean of CMIP5 climate models (c, d). The defined seasons are December–February (DJF), March–May (MAM), June–August (JJA), and September–November (SON). Desert regions and Greenland are masked in the multi-model mean maps.
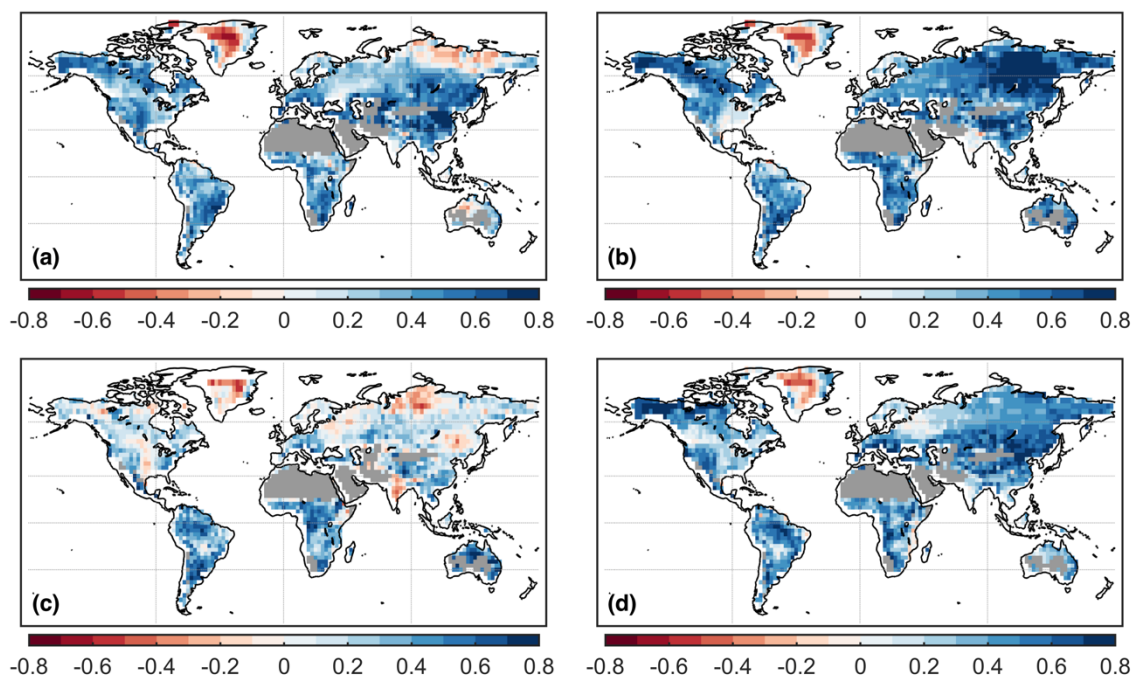
Figure S2: Pearson correlation at each grid cell between the climatology of NWL and nocturnal near-surface air temperature for climate models. Data corresponds to the period 1976–2005 from historical simulations. Correlations are computed separately for each season: (a) December–February, (b) March–May, (c) June–August, and (d) September–November. Grid cells with information from less than 2/3 of all models are not considered. Desert regions are masked.