

Supporting Information for ”Increasing intensity of extreme global heatwaves: the crucial role of metrics”

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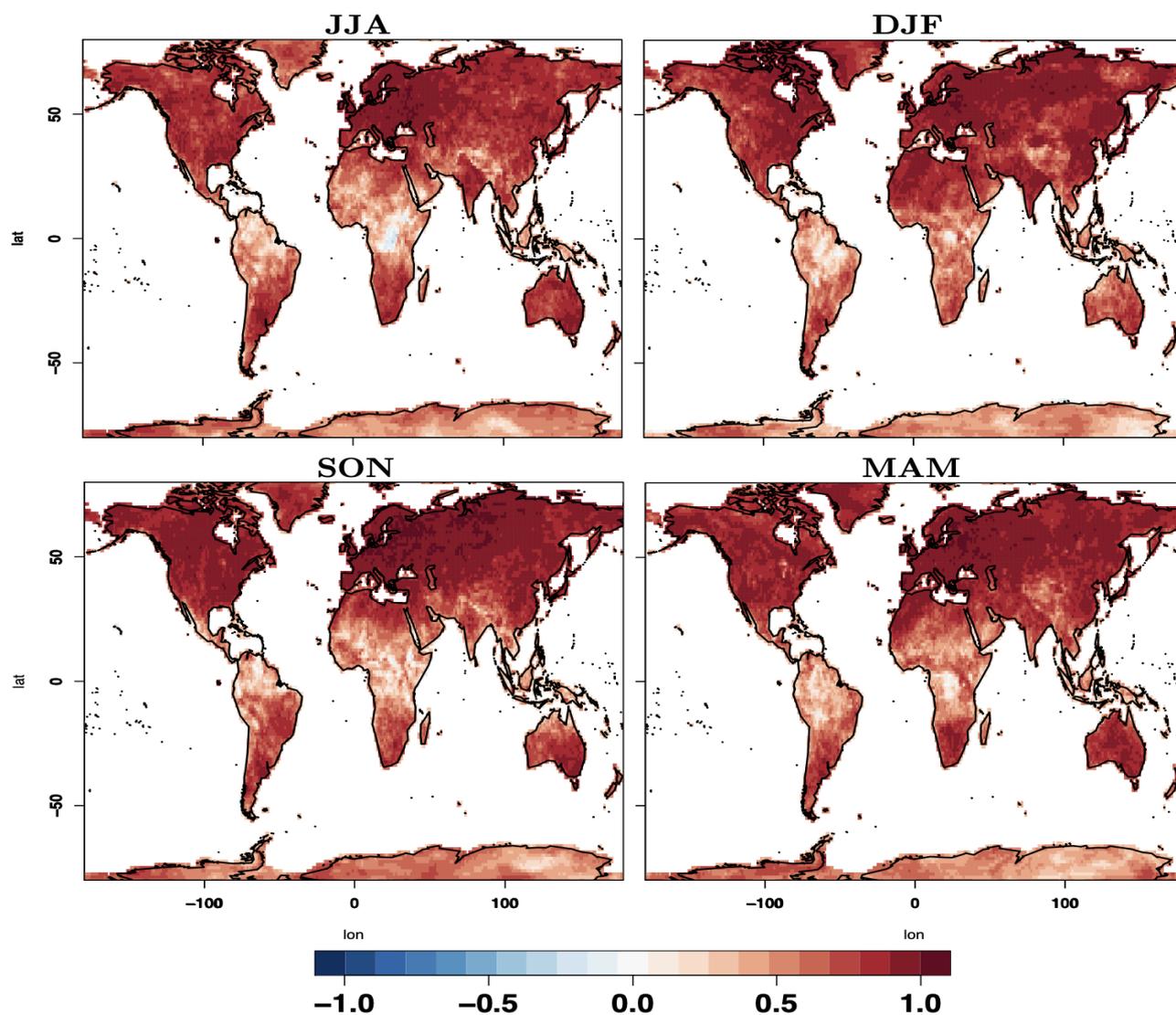


Figure S1. Spearman correlation calculated on seasonal maxima of daily temperature maximum derived from the ERA5-Land and the JRA-55 reanalysis dataset, over the period 1950-2021, at $1 \times 1^\circ$ resolution. The correlation is calculated for each season, considering only the given 3 months, separately. From top to bottom, the obtained results for, respectively, JJA, DJF, SON and MAM, are shown.

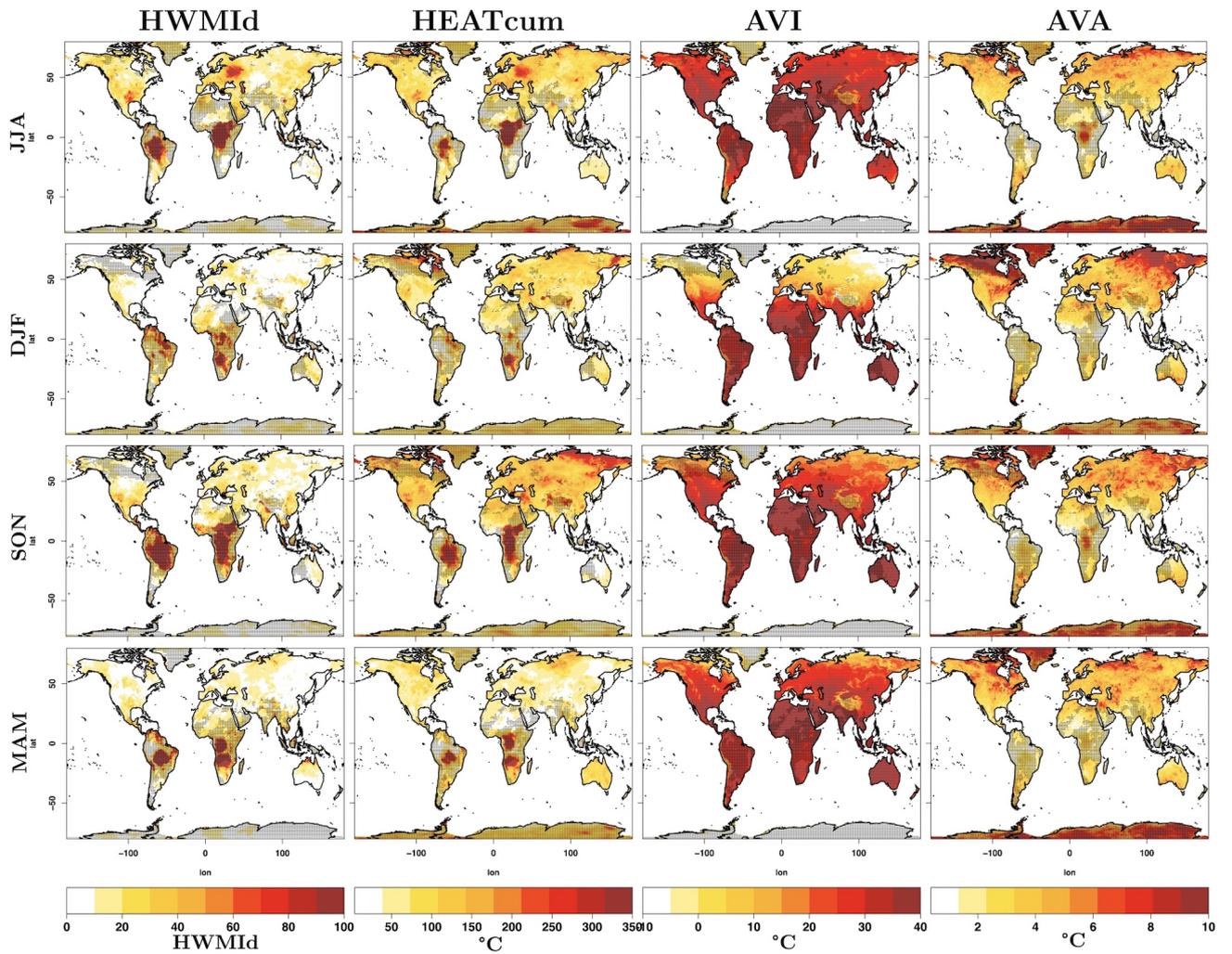


Figure S2. Maximum values of JJA HWMId calculated from ERA5-land daily maximum temperatures at high spatial resolution, over the period 1950-2021, but considering all the heatwave days of a season.

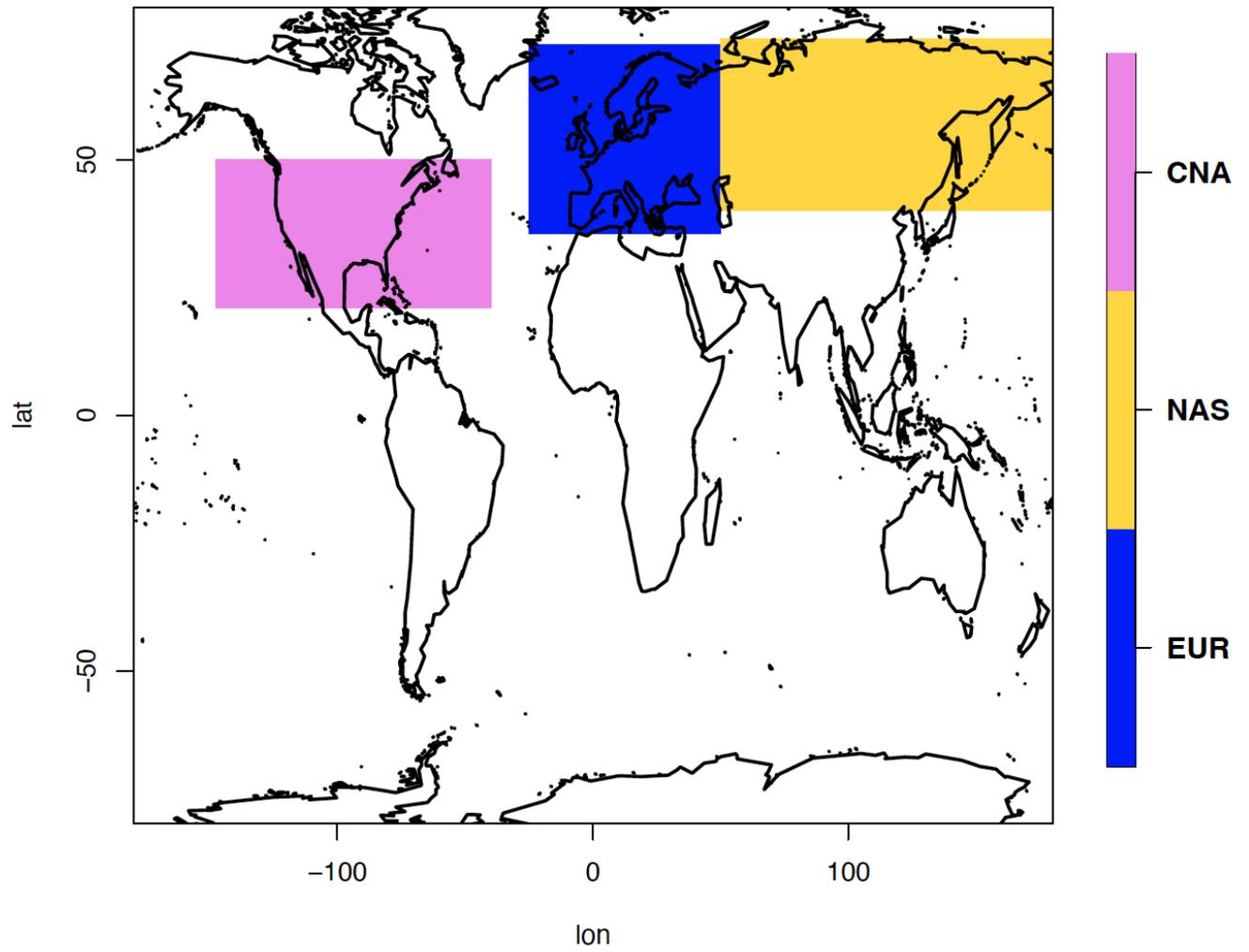


Figure S3. Domain Decomposition.

Table S1. Intensity indices definition.

INDEX	Definition	Description
HWMI_d	$\sum_{d=1}^{n_{HW}} M_d(T_d)$	Sum of anomalies of daily maximum temperatures for a given day d of a heatwave, standardized following eq. ??
HEAT_{cum}	$\sum_{d=1}^{n_y} T_d - Tr90_d$	Sum of anomalies of daily maximum temperatures calculated over all the heatwave days of a given season.
AVI	$\frac{\sum_{d=1}^{n_y} T_d}{n_y}$	Mean value of daily maximum temperatures calculated over all heatwave days of a season.
AVA	$\frac{\sum_{d=1}^{n_y} T_d - Tr90_d}{n_y}$	Mean Value of the anomalies of daily maximum temperatures calculated over all heatwave days of a given season.