*Climatic Risk*

We estimated climatic risk based on the estimated trend in the annual proportion of days containing extreme heat events from 1979 to 2019 (La Sorte et al. in review). Extreme heat events were estimated using hourly air temperature at 2 m above the surface and gridded at a 31 km (0.28125° at the equator) spatial resolution (DOI: 10.24381/cds.adbb2d47). The temperature data was acquired from the European Centre for Medium-Range Weather Forecasts (ECMWF) fifth generation atmospheric reanaly­sis of the global climate (ERA5)(Hersbach et al. 2019, Hoffmann et al. 2019). The approach first extracted daily minimum and maximum temperature for each grid cell over the 41-year period. To reduce the influence of warming trends, the daily minimum and maximum temperature was then detrended across years for each day and grid cell using empirical mode decomposition (EMD) (Huang et al. 1998, Wu et al. 2007). The occurrence of extreme heat events was estimated using the following approach, see La Sorte et al. (in review) for additional details. The detrended minimum and maximum temperature data was treated as normally distributed across years for each day and grid cell. The probability density function for the detrended minimum and maximum temperature was then estimated using the mean and standard deviation calculated across years for each day and grid cell. Extreme heat events occurred when the probabilities for both minimum and maximum temperature on a given day and grid cell were within the 0.95-1.00 quartile of the probability density function. The trend in the annual proportion of days containing extreme heat events for each year was calculated for each grid cell using beta regression with a logit link function and an identity function in the precision model (Ferrari and Cribari-Neto 2004, Simas et al. 2010).

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