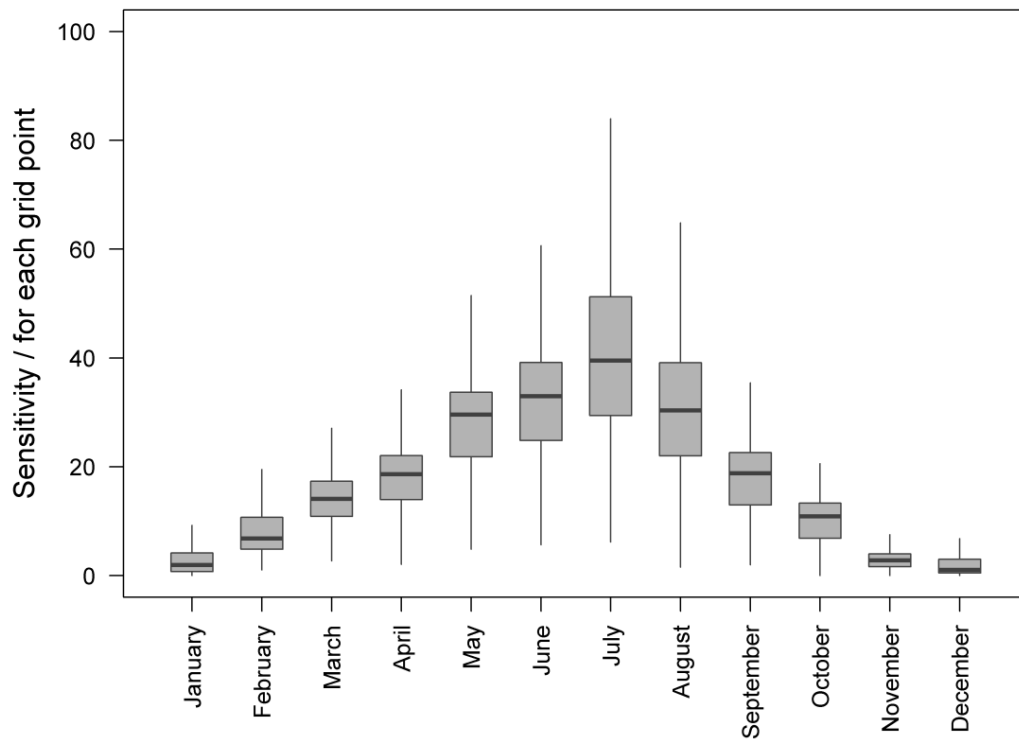


**Figure S1.** Temporal evolution of the annual and seasonal differences (events/for each grid point) between the flash drought series recorded by the SPI, EDDI and SPEI on mainland Spain and the Balearic Islands over the period 1961–2018.



**Figure S2.** Monthly frequency of the sensitivity (%) of the SPEI to AED on mainland Spain and the Balearic Islands over the period 1961-2018 at a short time scale (1-month). The monthly series include the weekly data for the last week of each month in each year.