Supplementary Material

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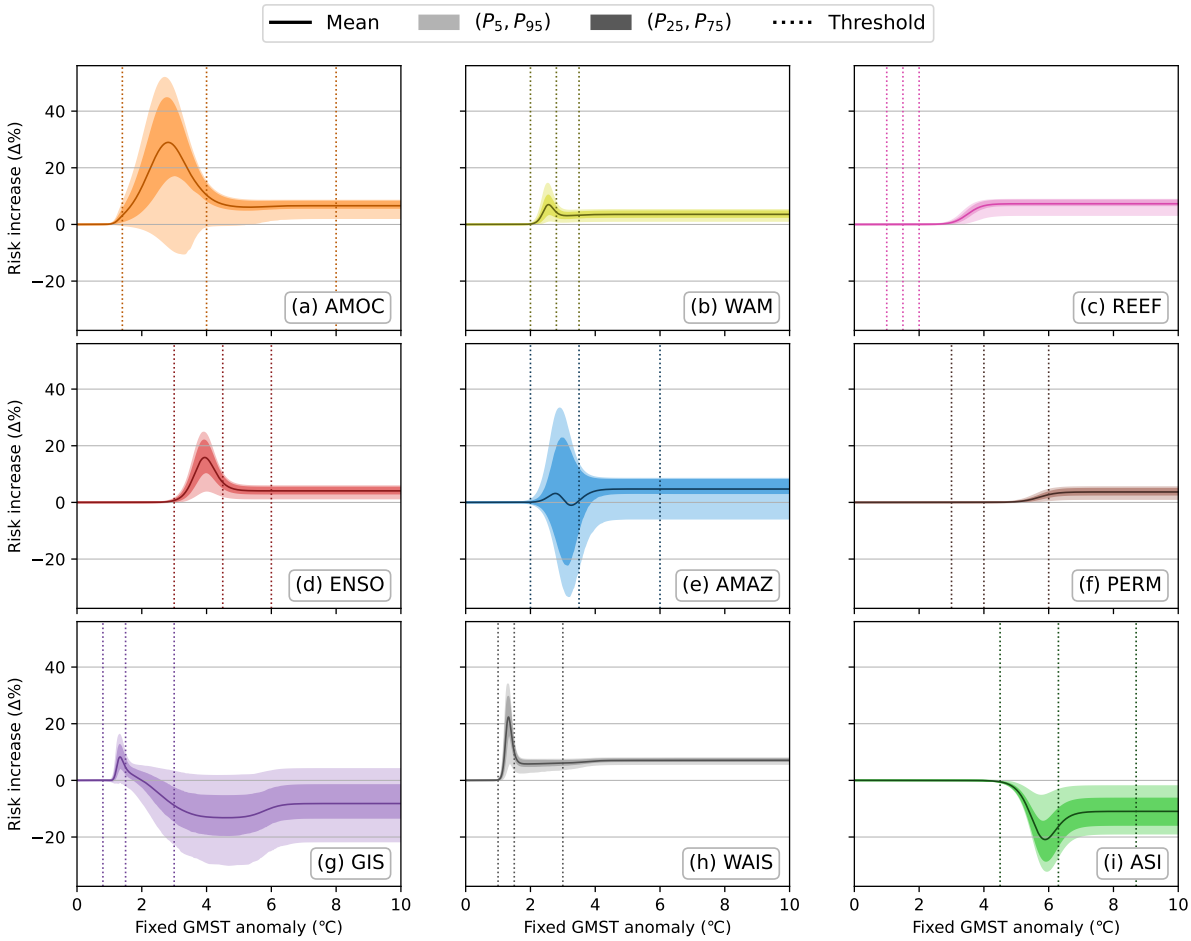

Figure S1. Increase in equilibrium Degraded risk of tipping elements, due to their interactions, relative to the sans-interaction case, over different fixed levels of global warming. Dashed lines indicate the sans interactions case; bold lines the ensemble mean values; while the coloured bands showing values the 5- to 95-percentile uncertainty range in lighter hue, and the first- to third-quartile uncertainty range in darker hue. The thin dotted lines indicate the tipping threshold of each element (see Table **??**).

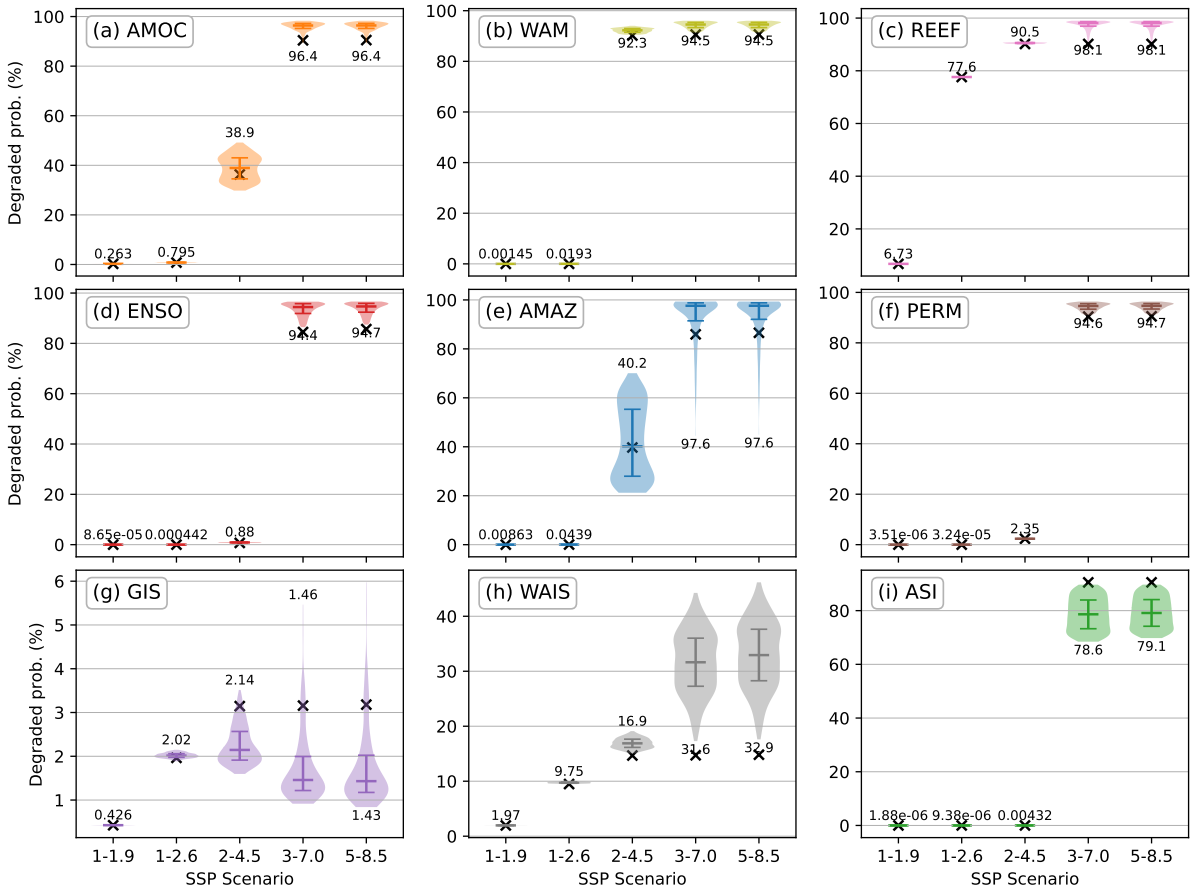

Figure S2. Distribution of Degraded risks of interacting tipping elements under different global warming scenarios by the year 2350. In particular, in each panel, each violin plot shows the distribution over the ensemble of plausible interaction matrices, with bars indicating the interquartile range and median, whose value is further indicated.

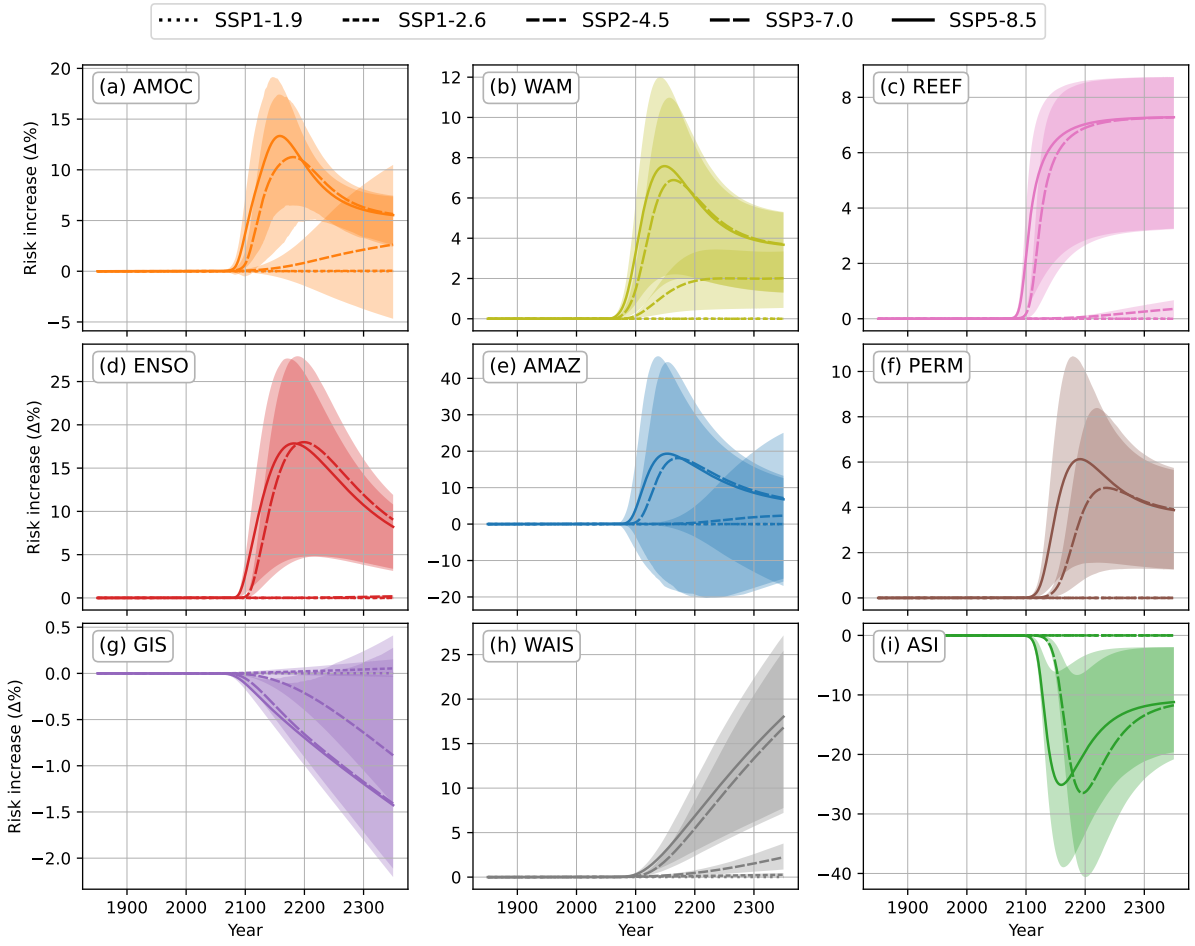

Figure S3. Increase in Degraded probability of tipping elements, due to their interactions, relative to the sans-interaction case, over time under different global warming scenarios. In particular, the bold line represents the historical scenario in the years 1950-2014 while from 2015-2099 the different styles of line represent different shared-socioeconomic pathways (SSPs). For graphical clarity, only the 5- to 95-percentile uncertainty range of the ensemble are included.

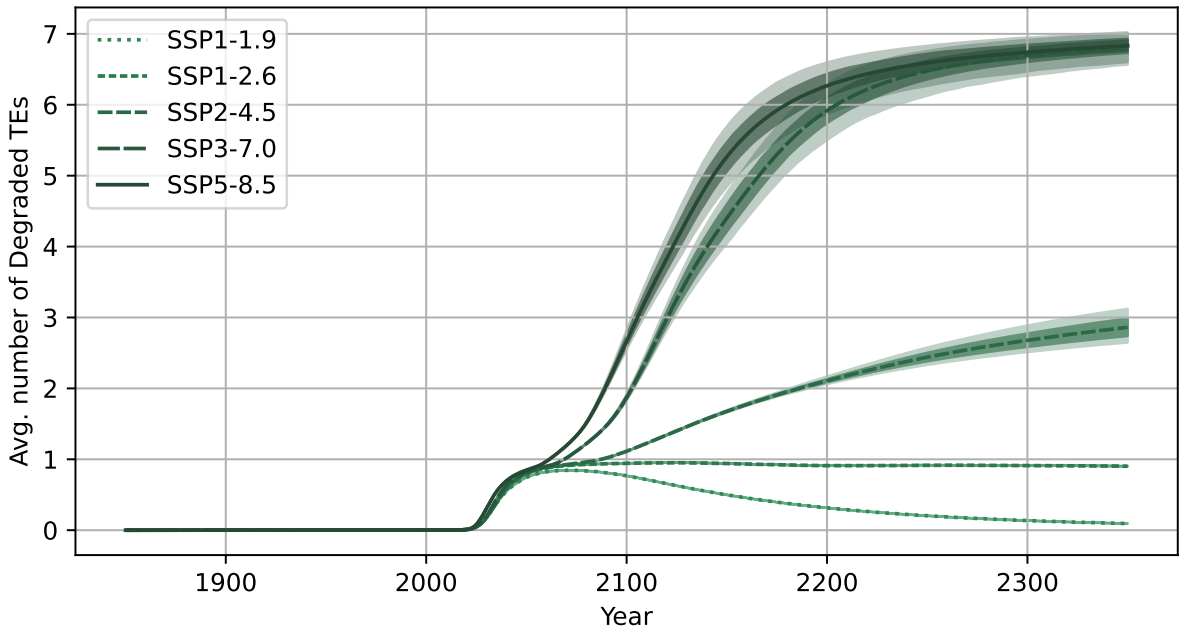

Figure S4. Average number of degraded tipping elements in the short-term (1950-2099), under different SSP scenarios. Specifically, this is the sum of long term risks over all tipping elements as seen in main text Fig. The dashed line indicates the sans interactions case; bold lines the ensemble mean values; while the coloured bands shows values within the 5- to 95-percentile range in lighter hue, and values within the first to third quartile in darker hue.