Supplementary Material

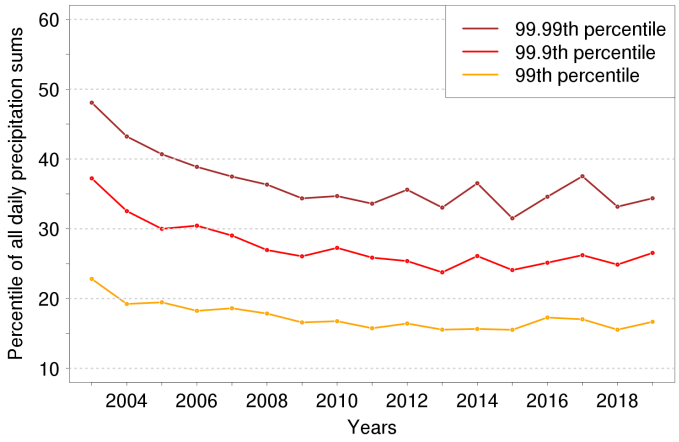

Figure S1. Yearly distribution of the 99th, 99.9th and 99.99th percentile of the daily accumulated precipitation amounts over the Danube catchment. All percentiles decrease from 2003 until about 2008.

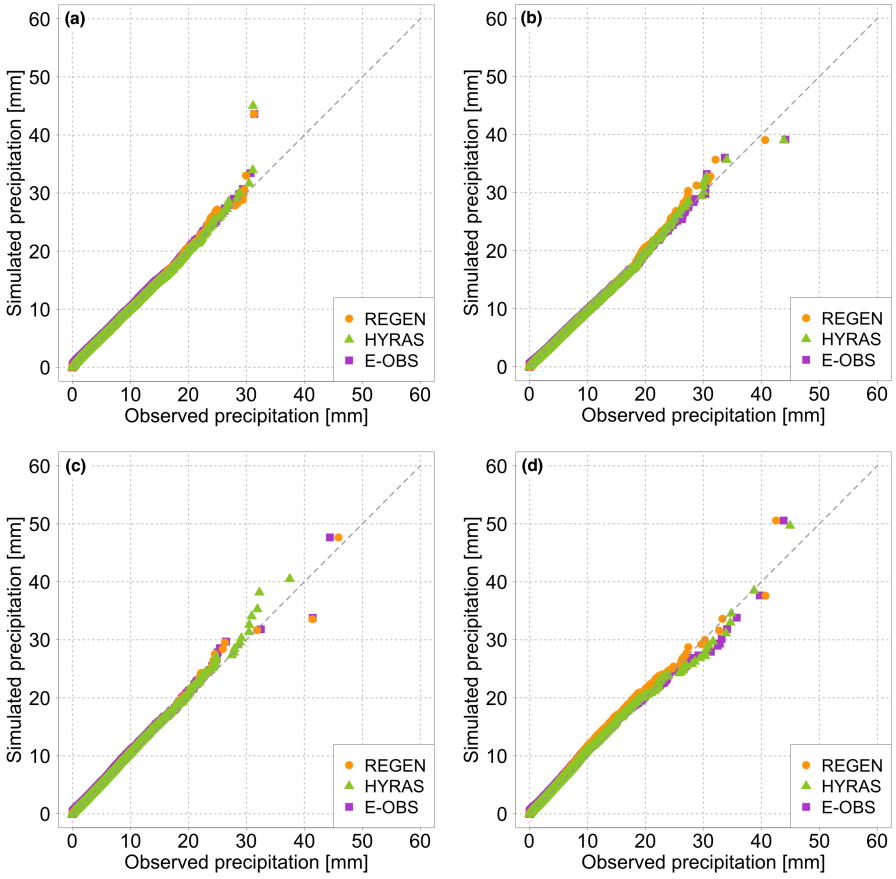

Figure S2. Quantile-quantile-plot of daily precipitation from the ensemble weather prediction data (vertical axis) and three observational data sets (REGEN, HYRAS and E-OBS; horizontal axis) for the **(a)** Rhine, **(b)** Weser/Ems, **(c)** Elbe and **(d)** Oder catchment.

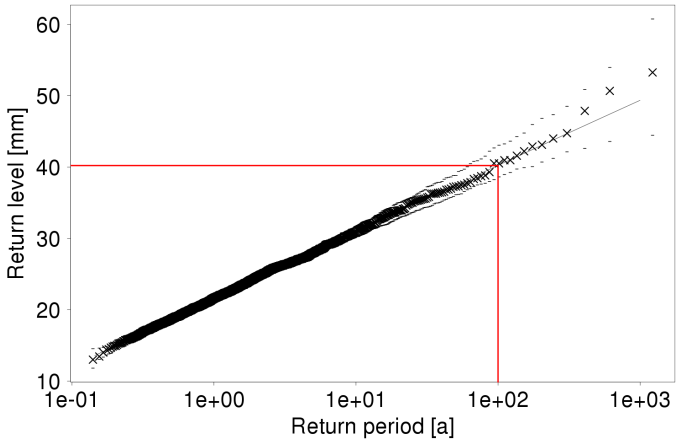

Figure S3. Return level plot from the generalised extreme value distribution, based on yearly precipitation maxima from the ensemble prediction data for the Danube catchment. The red lines mark the return level of a 100-year precipitation event.

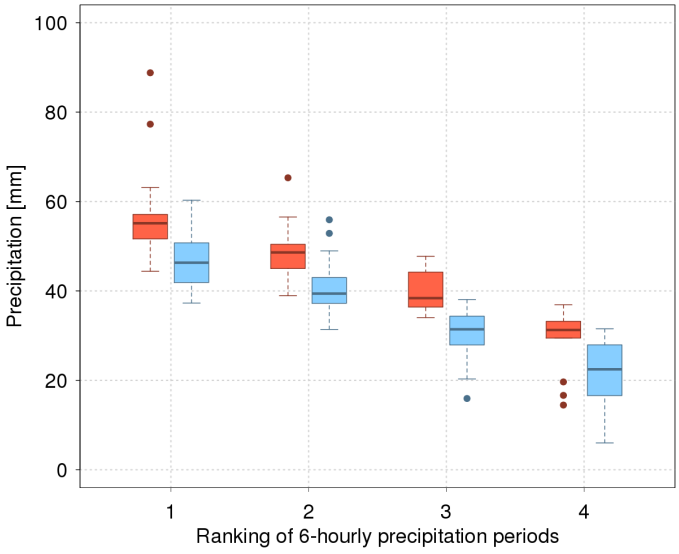

Figure S4. Precipitation intensity distribution for the 6-hourly periods during (red) MEPE and (blue) LEPE over the Danube catchment, ranked by their precipitation intensity (descending).

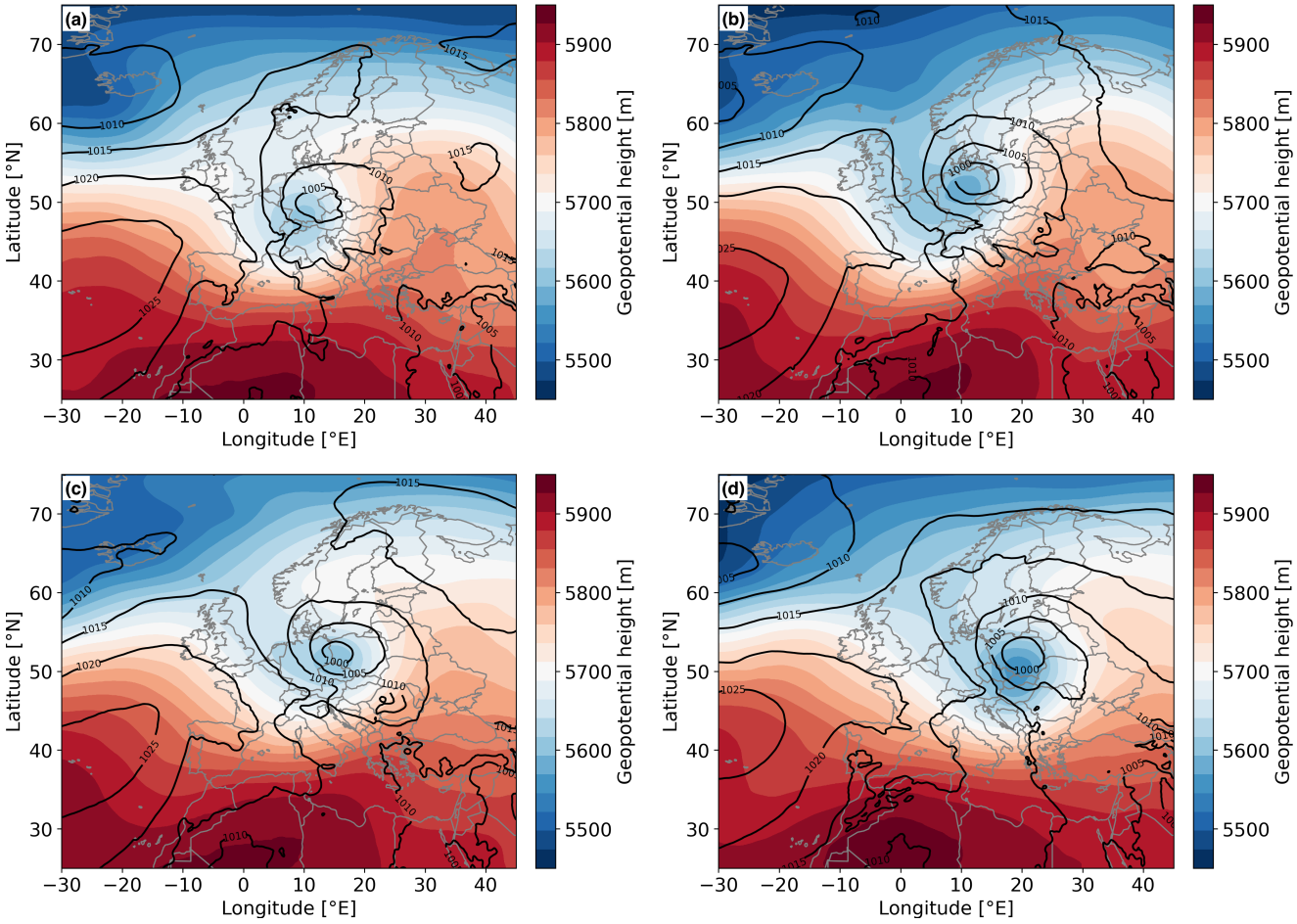

Figure S5. Composites of geopotential height at 500 hPa (colour shading) and sea level pressure (contours) for all MEPE over the **(a)** Rhine, **(b)** Weser/Ems, **(c)** Elbe and **(d)** Oder catchment, 12 hours after the start of the daily extreme events.