

S1 Conditional probabilities of attributed extreme surface weather

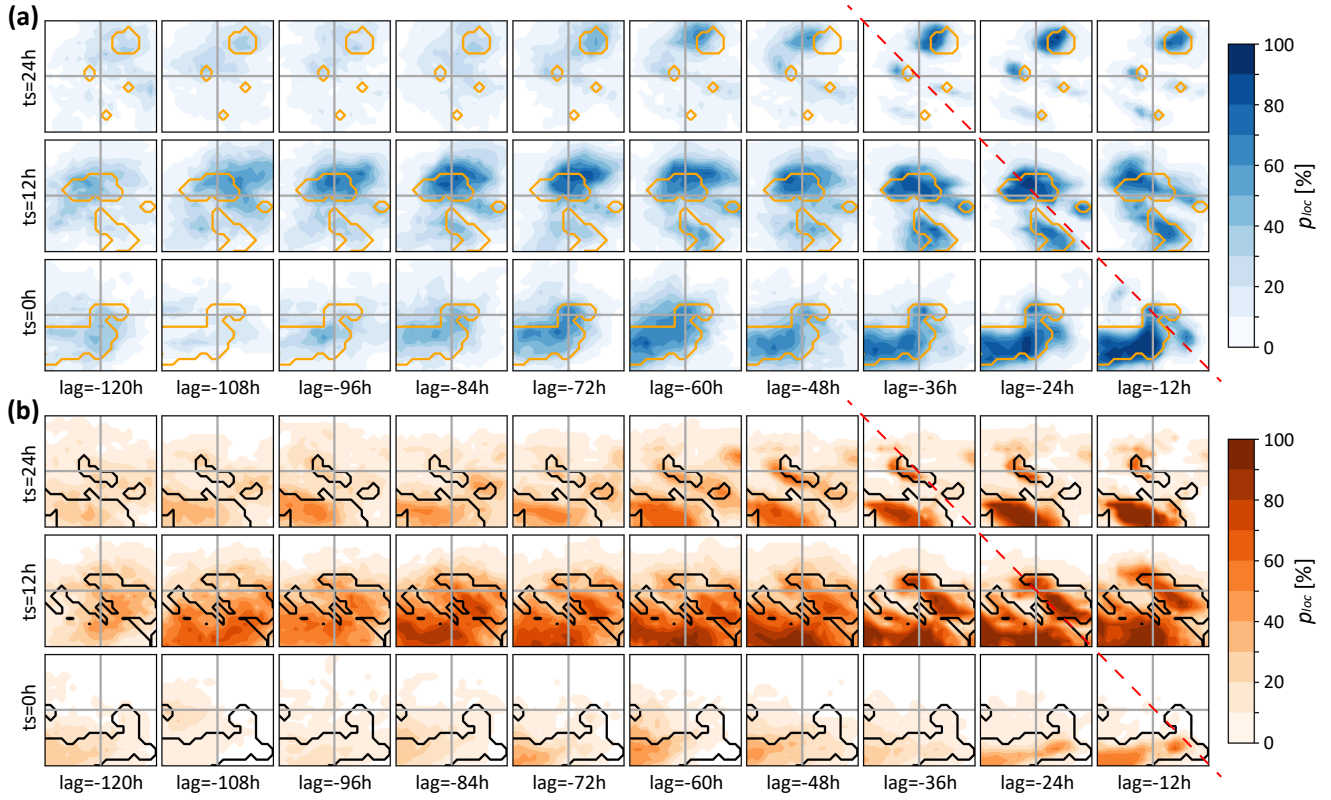


Figure S1. Cyclone-centered probabilities (p_{loc}) of extreme objects of (a) P (blue shading) and (b) G_{10} (orange shading) during Storm Denise in ENS (in %). The orange line in (a) and black line in (b) denote the extreme P and G_{10} objects in ERA5, respectively. Lead time decreases along the x-axis (t_{fc} ; panels every 12 h) and time along the ERA5 cyclone lifecycle increases along the y-axis (t_{cyc} ; with cyclogenesis at $t_{cyc} = 0$ h). Composites from the same ENS forecast are positioned diagonally as illustrated by the red dashed line. Note that compared to Fig. 10 shown in the main part, this figure shows *conditional* probabilities, averaging only over members including the cyclone instead of all members.

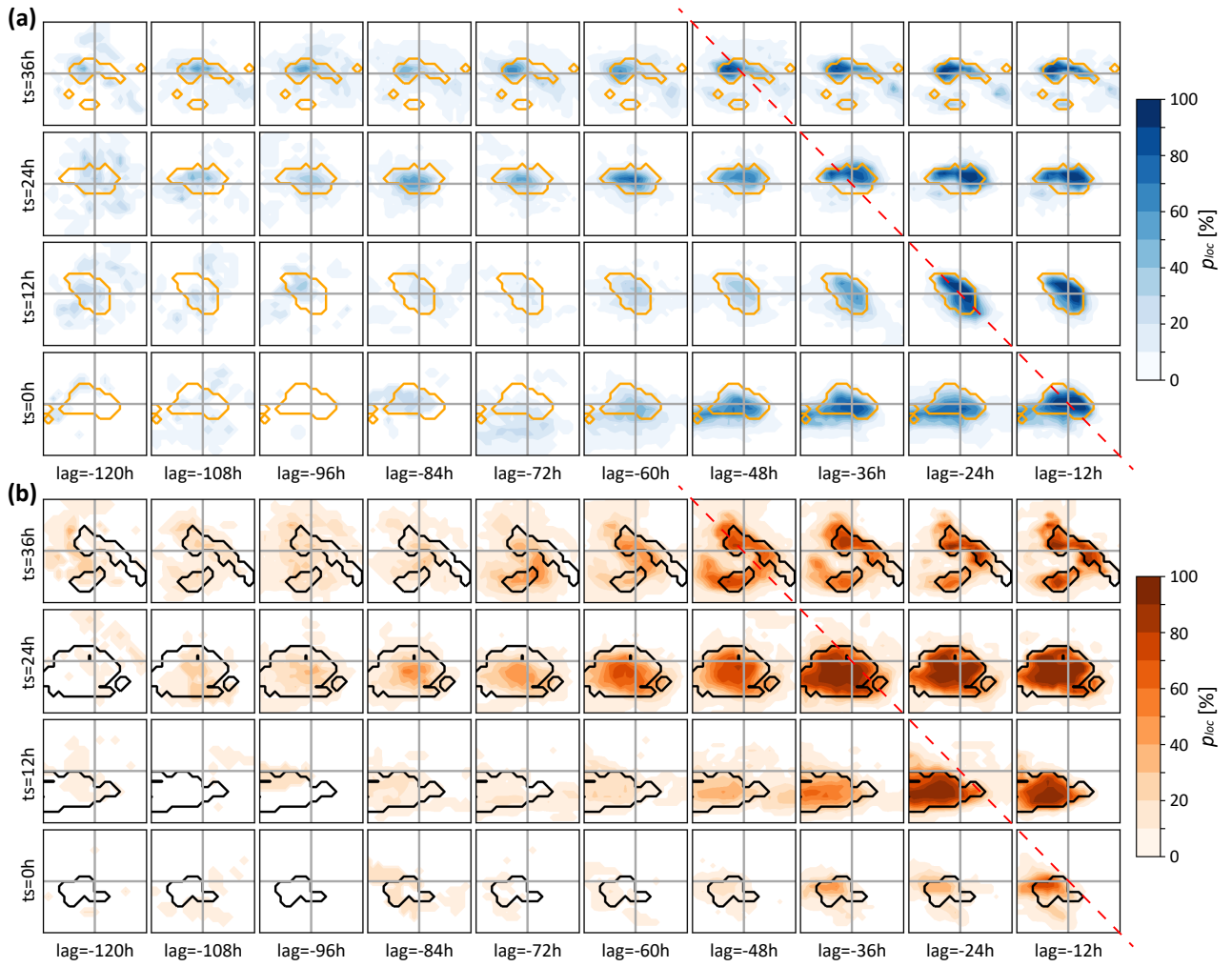


Figure S2. Same as Fig. S1 but for Storm Jan.

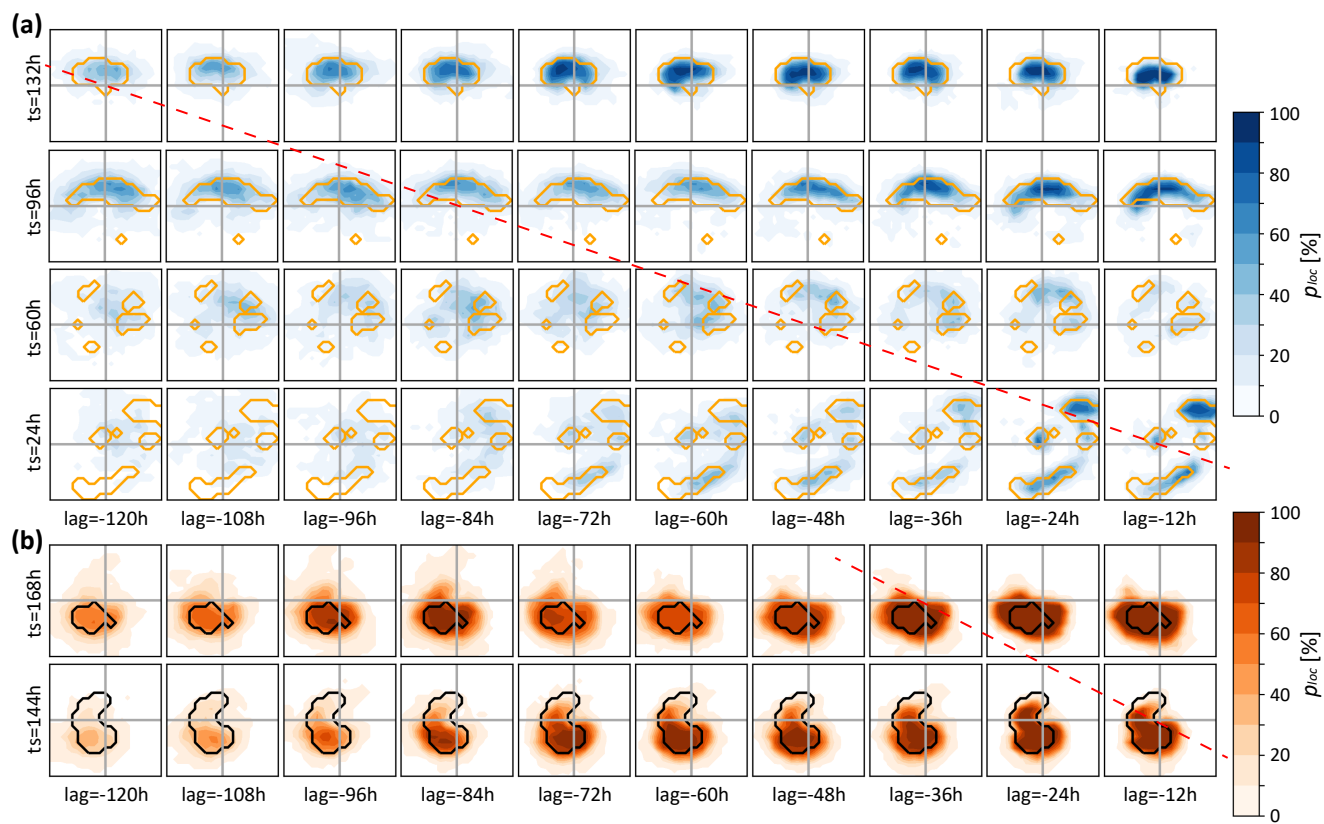


Figure S3. Same as Fig. S1 but for Storm Daniel.

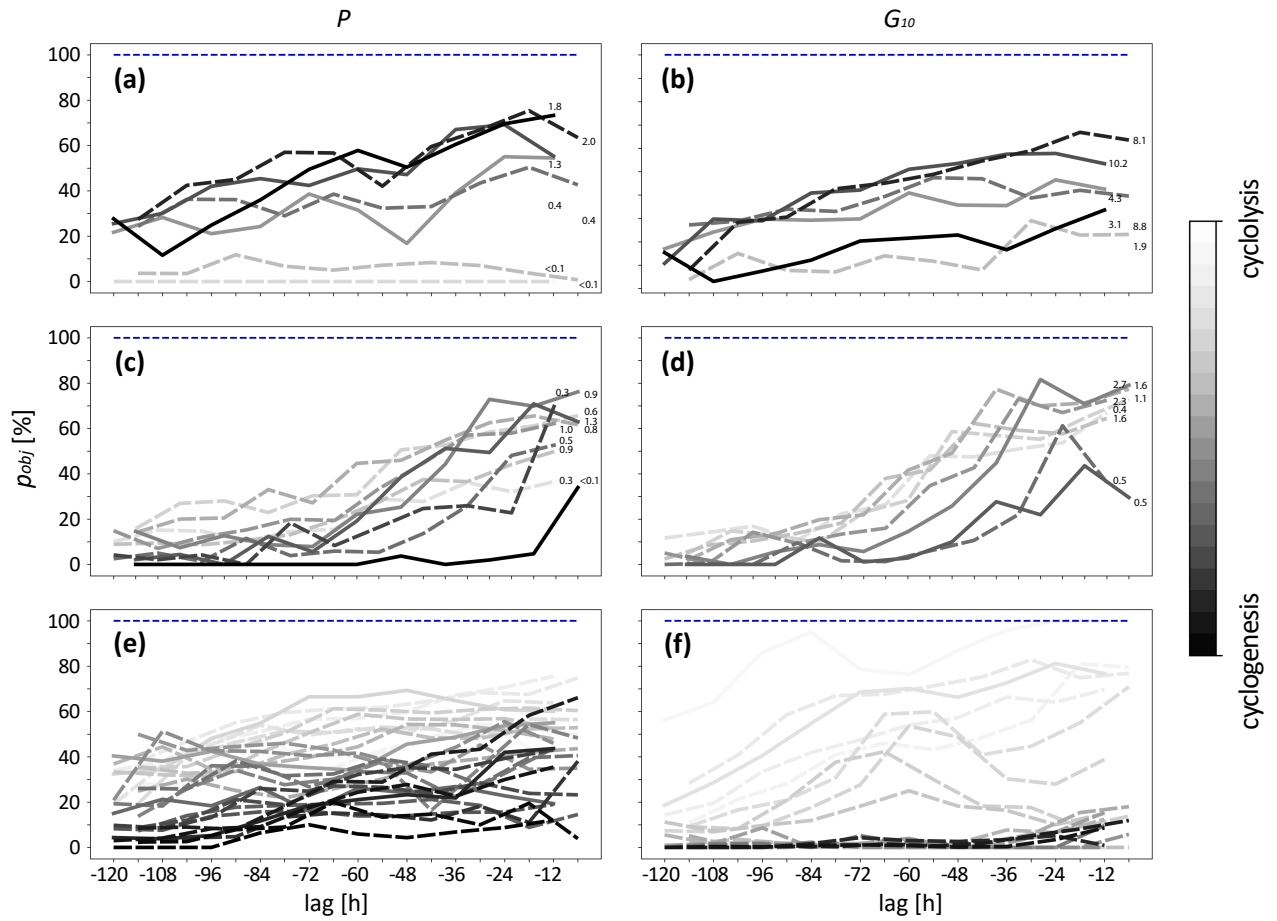


Figure S4. Same as Fig. 11 in the main part but for conditional composites, averaging only over members that have a matching cyclone track at a given time step.