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Supplement of

Extreme Mediterranean cyclones and associated variables in an atmosphere-only vs. an ocean-coupled regional model

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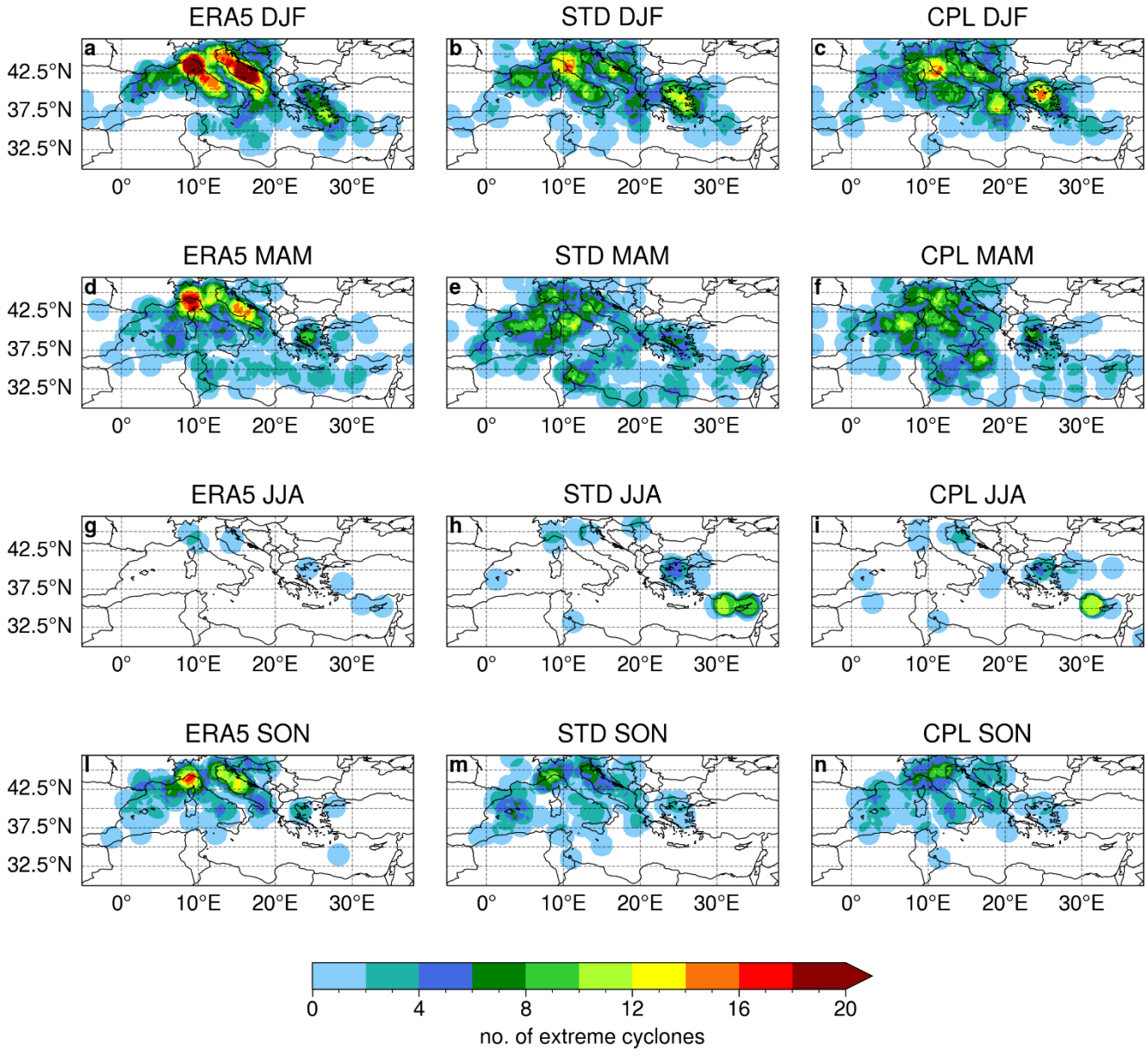


Figure S1: Number of occurrences of cyclone centre densities (CCD) for the 500 most intense cyclones in the 4 seasons for ERA5 (a, d, g, l), STD (b, e, h, m) and CPL (c, f, i, n). To highlight the cyclones' area of influence, each centre is represented by a circular area with 1.5° radius, around the tracked minimum SLP point.

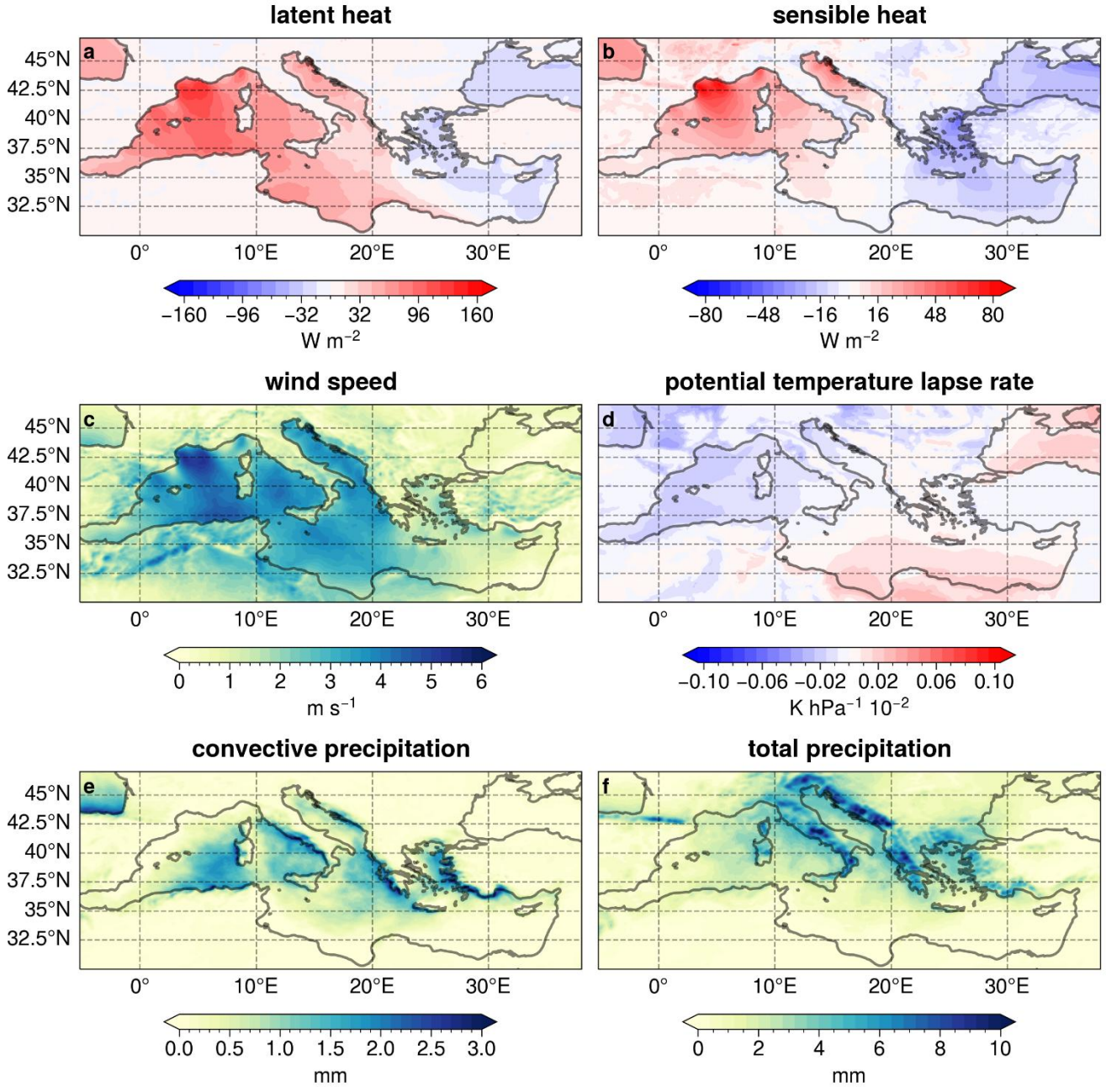
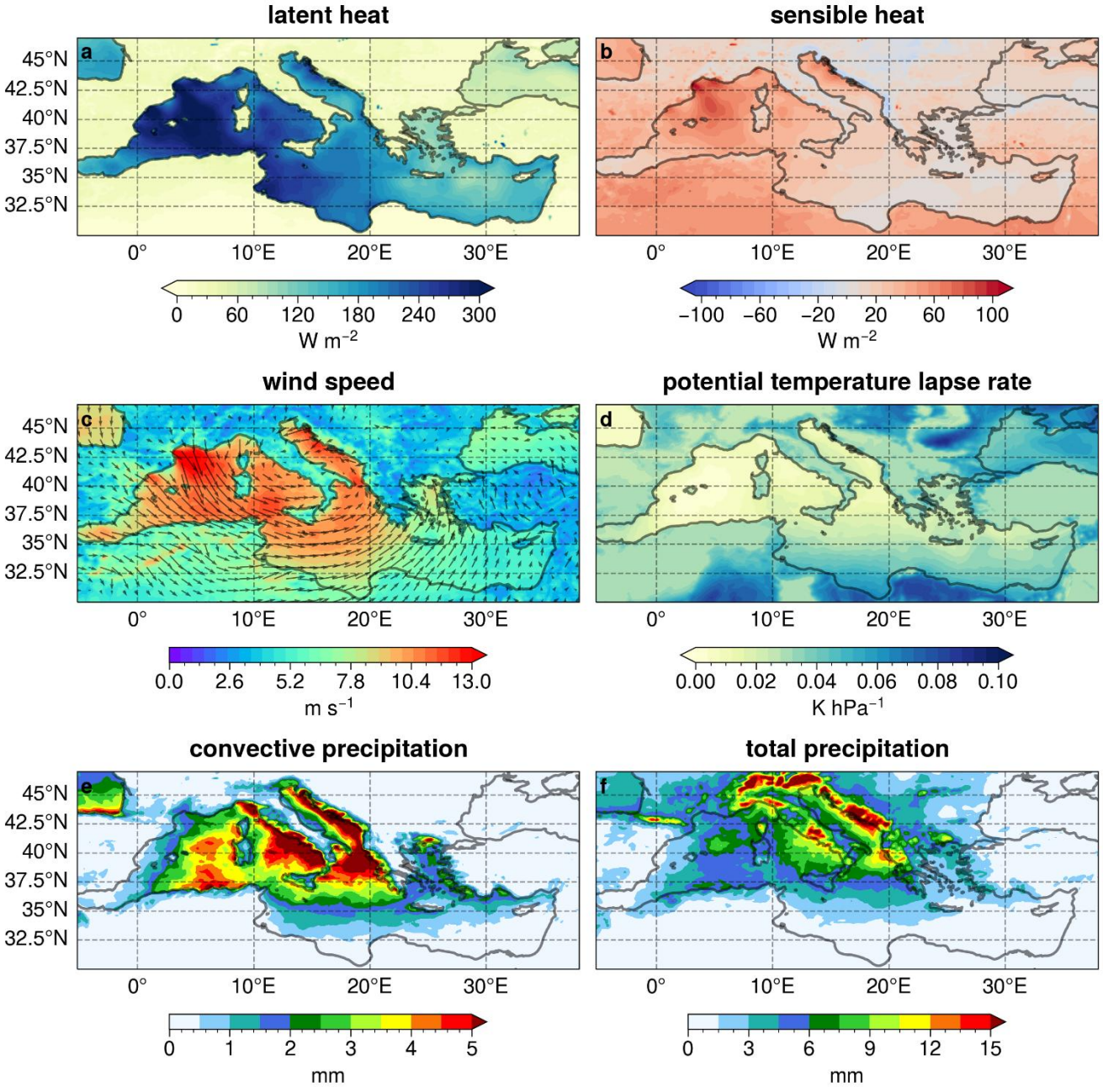


Figure S2: Maps of the differences in latent heat flux (a), sensible heat flux (b), 10 m wind speed (c), potential temperature lapse rate (d), convective precipitation (e) and total (large-scale + convective) precipitation (f) between cyclones and climatological scales for STD in winter (DJF).



10 **Figure S3: Same as figure 4, but for SON.**

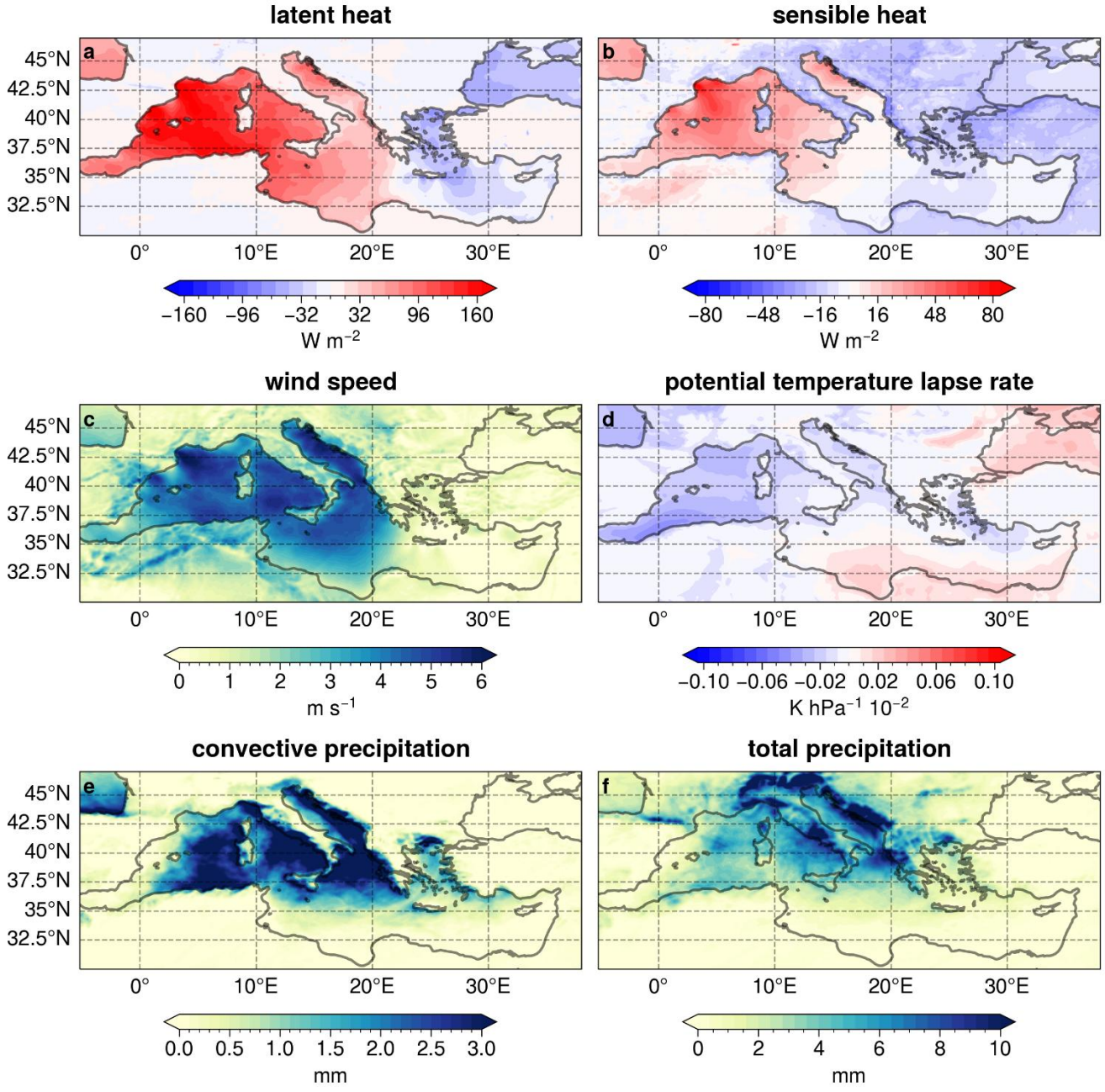
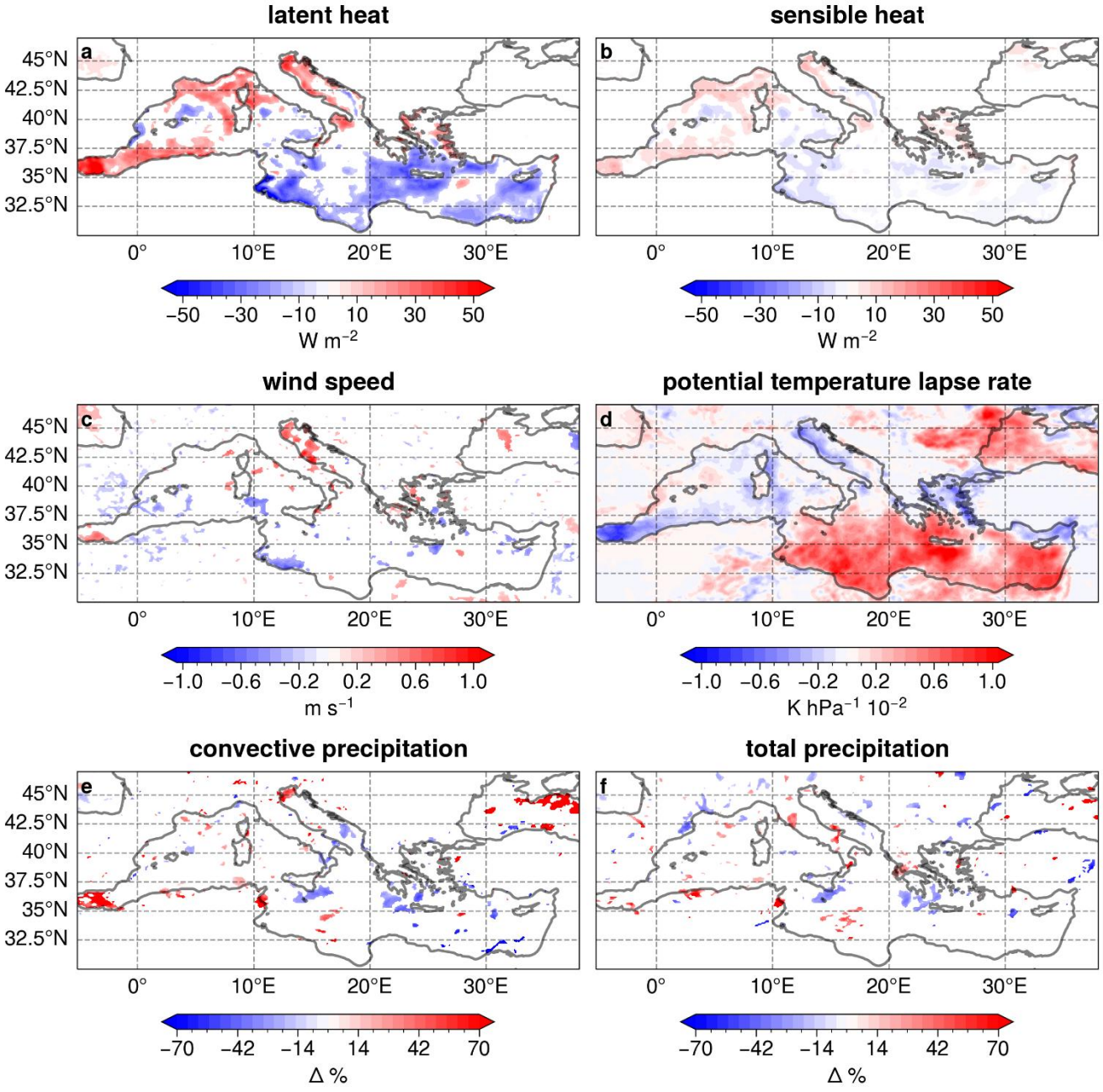


Figure S4: Same as figure S2, but for SON.



15 **Figure S5: Same as figure 7, but for SON.**

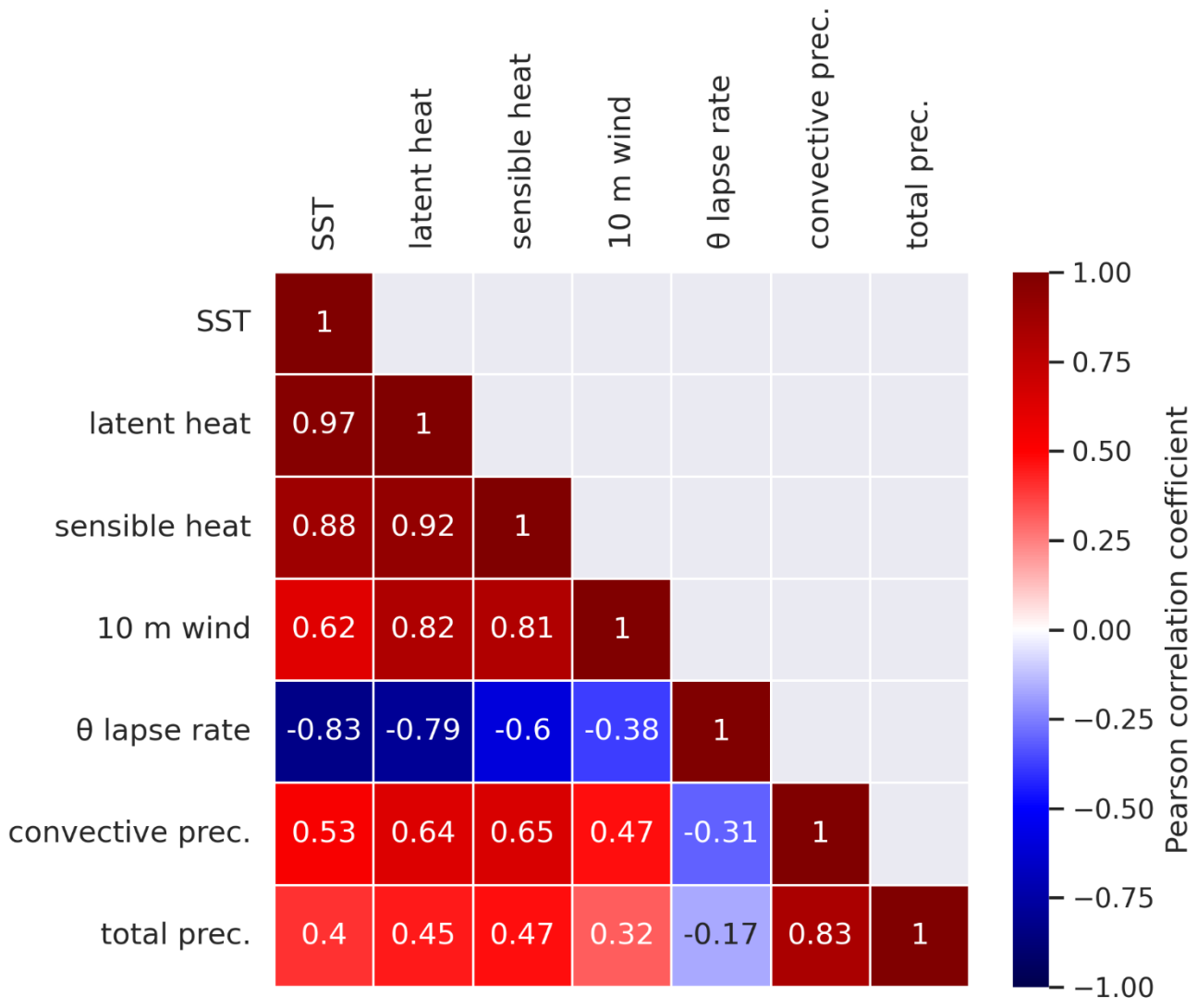


Figure S6: Same as figure 9, but for SON.

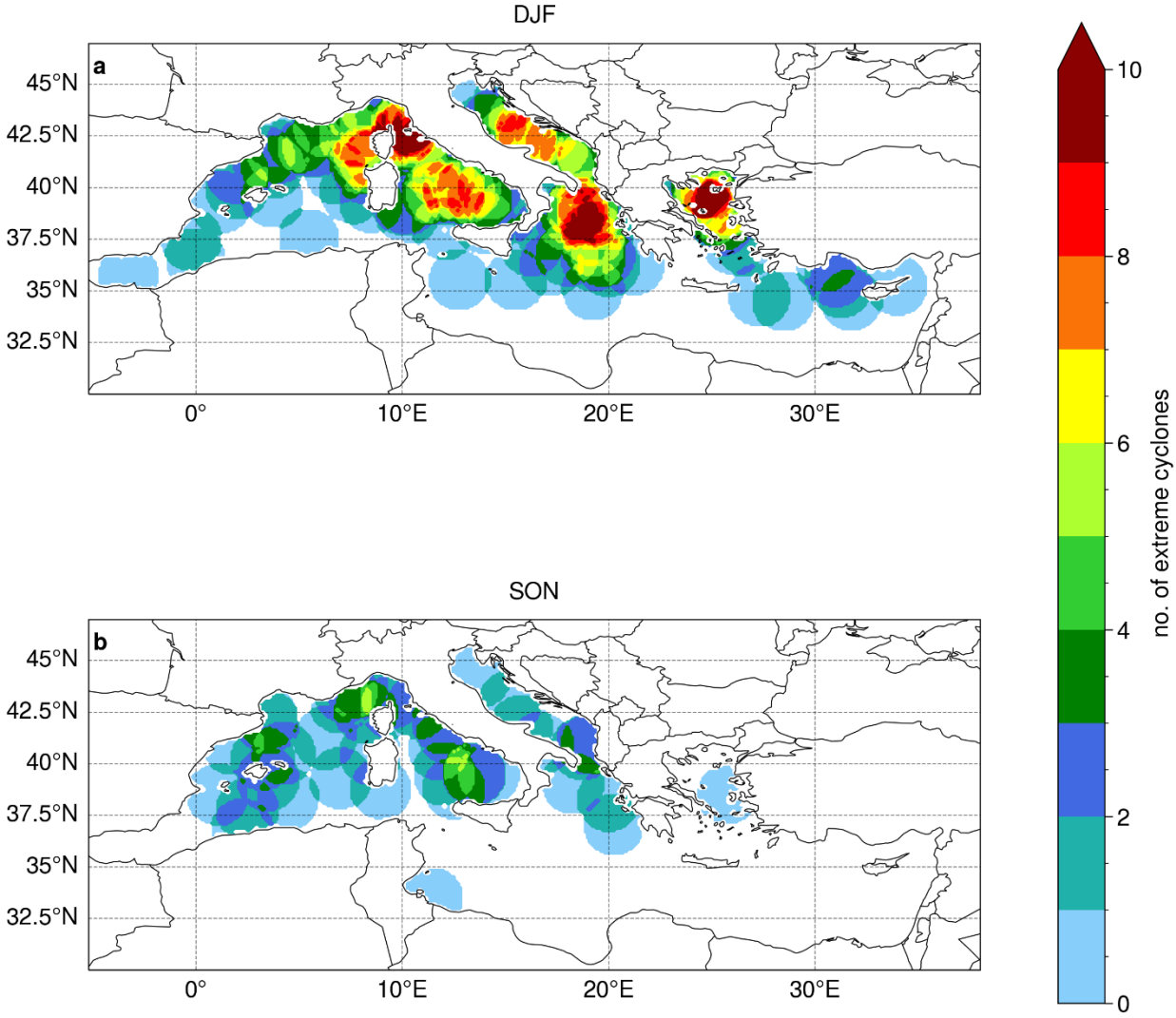
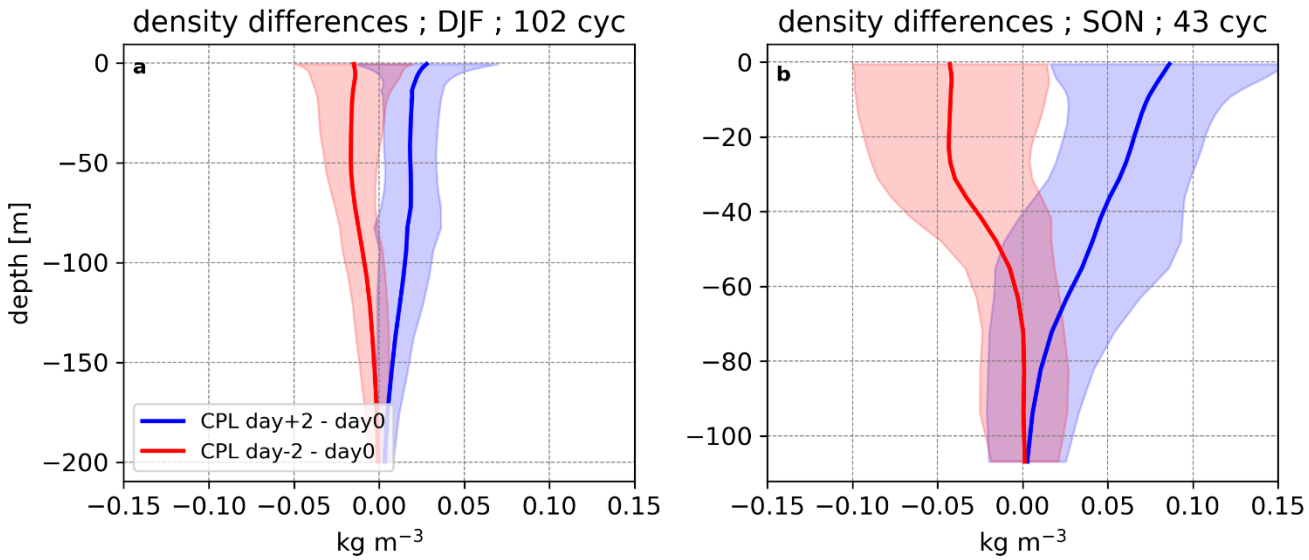


Figure S7: Number of occurrences of cyclone centre densities (CCD) in winter (a) and autumn (b) for the extreme cyclones of the CPL model in common with STD, that present their minimum SLP point over the sea. Each cyclone is represented by a circular area, only over the Sea, with 1.5° radius, around its minimum SLP tracking point.



25 **Figure S8: Same as Fig. 10c and d, but for density and only for the CPL model.**

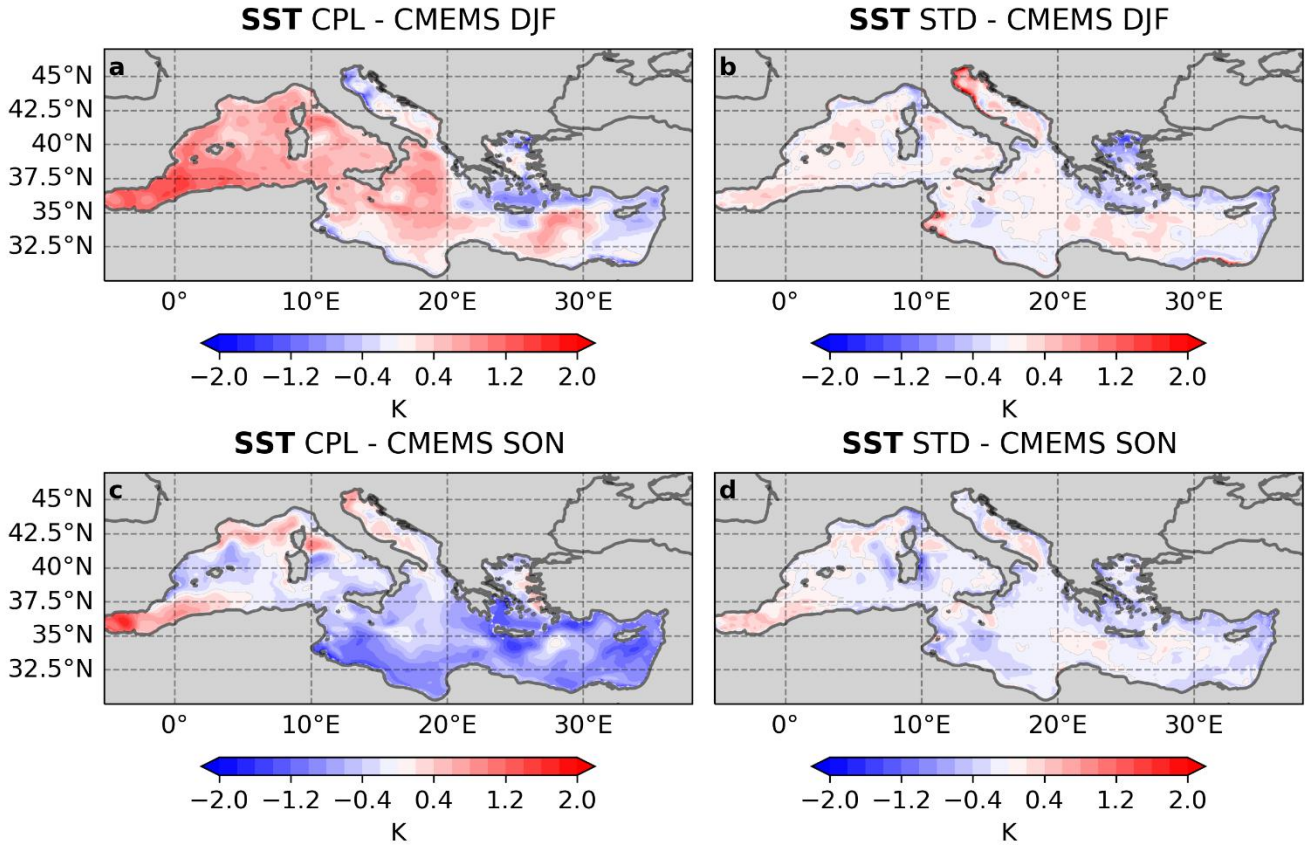


Figure S9: Maps of the climatological difference in SST between CPL and CMEMS MED-Currents in DJF (a) and SON (c) and between STD and CMEMS MED-Currents in DJF (b) and SON (d).