Supplementary material
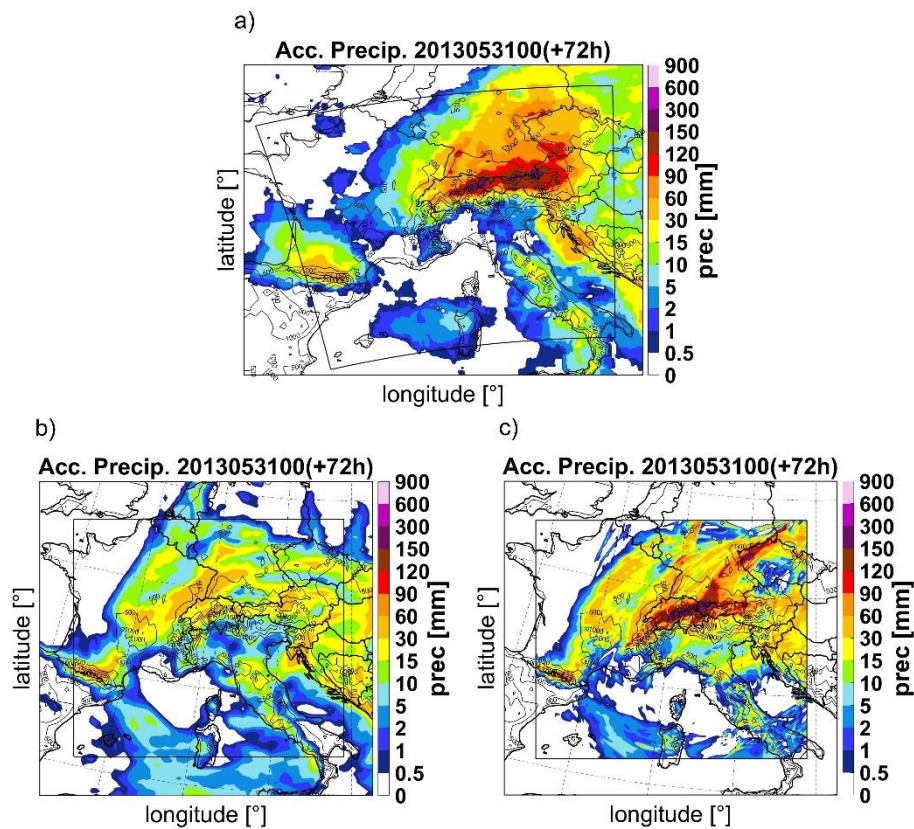
Figure S1. Spatial distribution of 72h accumulated precipitation for the event 31-May-2013 as observed by MSWEP-11km (a) and simulated by RCM (b) and CPM (c). The contours represent the surface height.
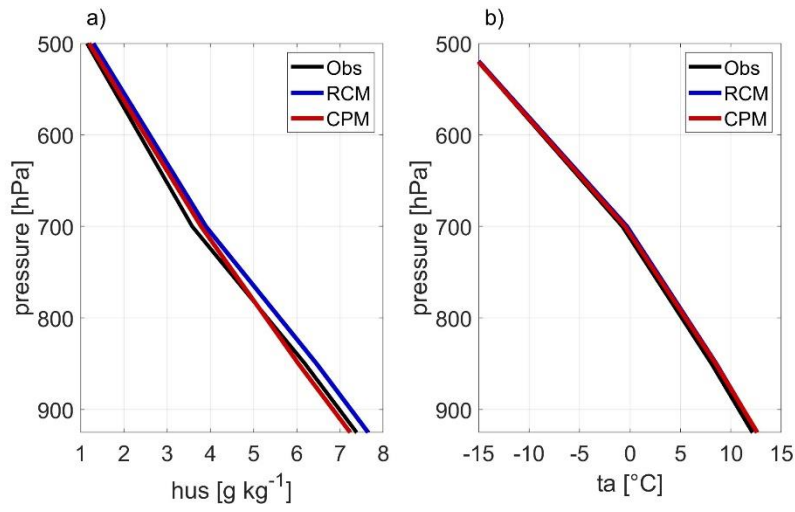
Figure S2. Vertical profiles of specific humidity (a) and temperature (b), timely averaged for all time steps of the 8 selected events in Tab. 3 for 11 stations. The UWYO soundings are shown in black, RCM in blue and CPM in red. The corresponding MB and RMSE are shown in Fig. 7.
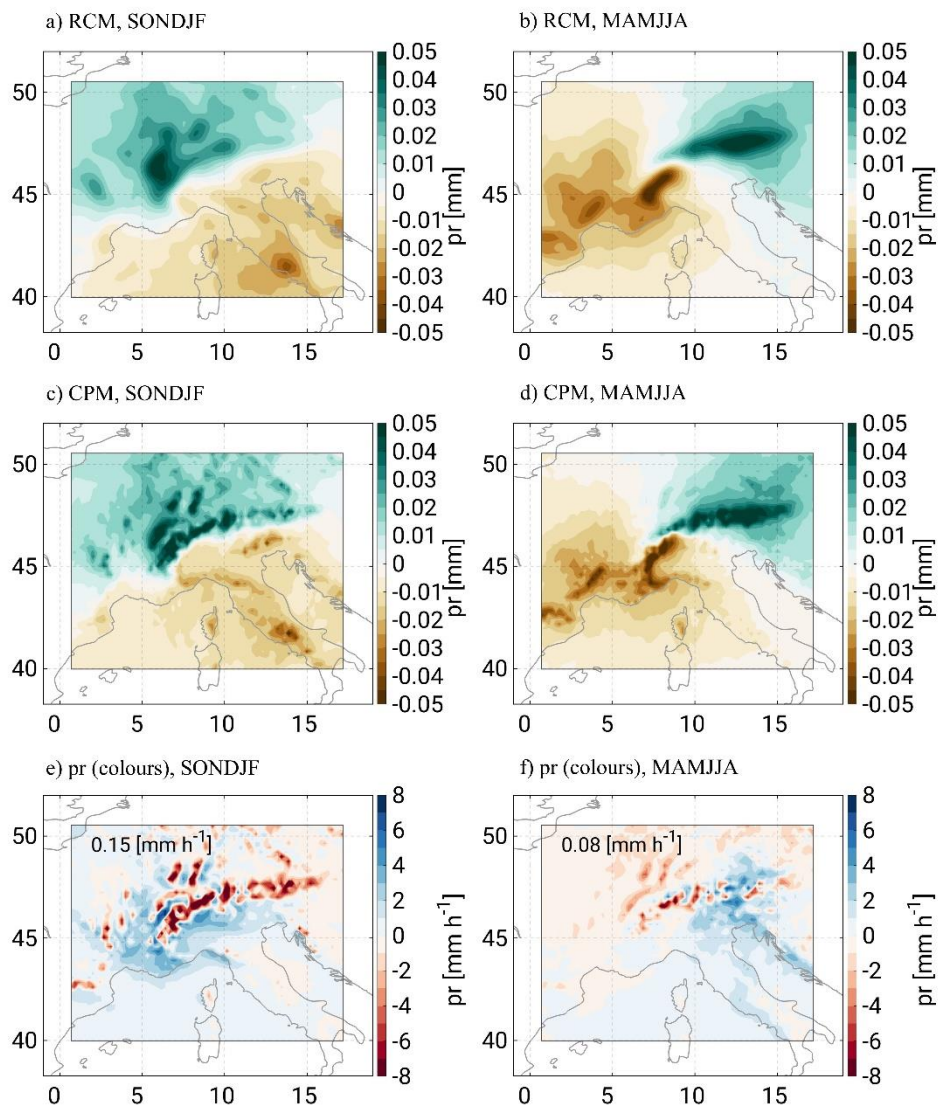
Figure S3. As Fig. 9 but for EOF-2.

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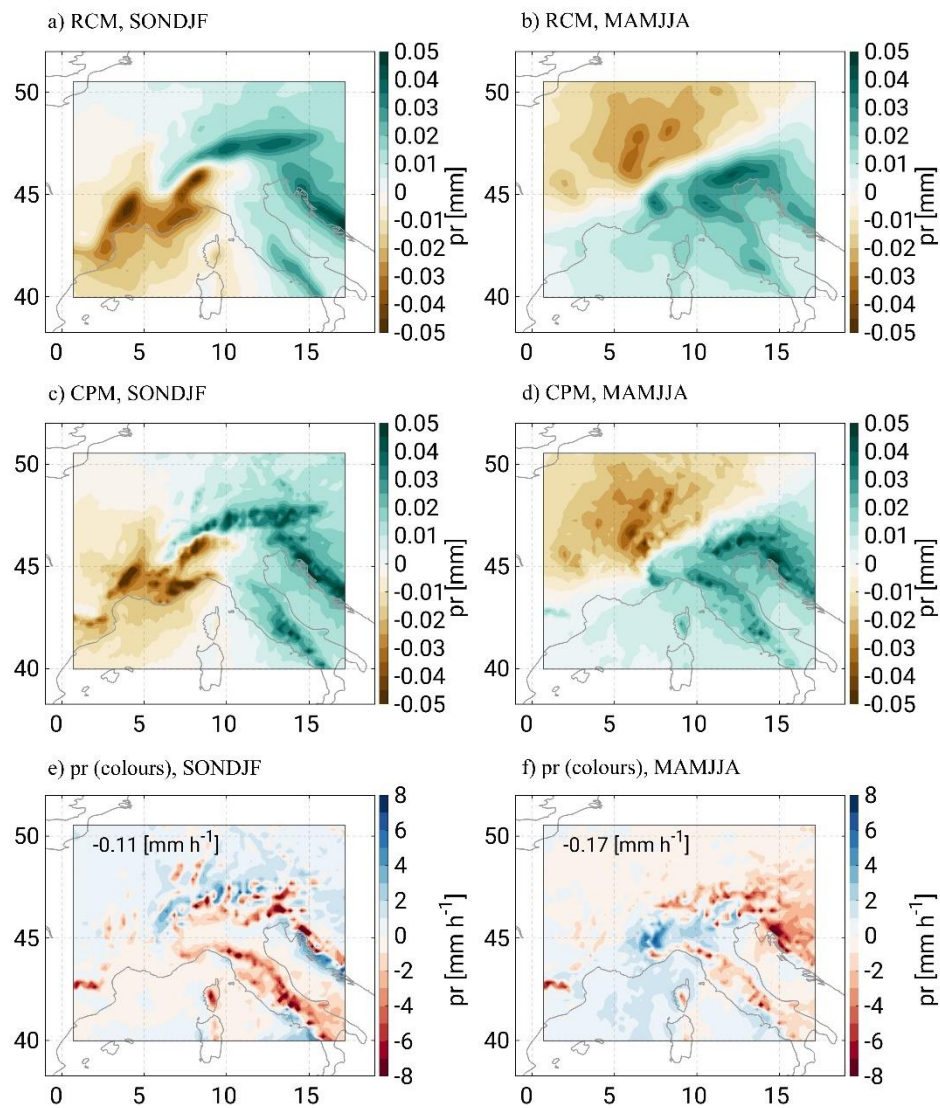
Figure S4. As Fig.9 but for EOF-3.
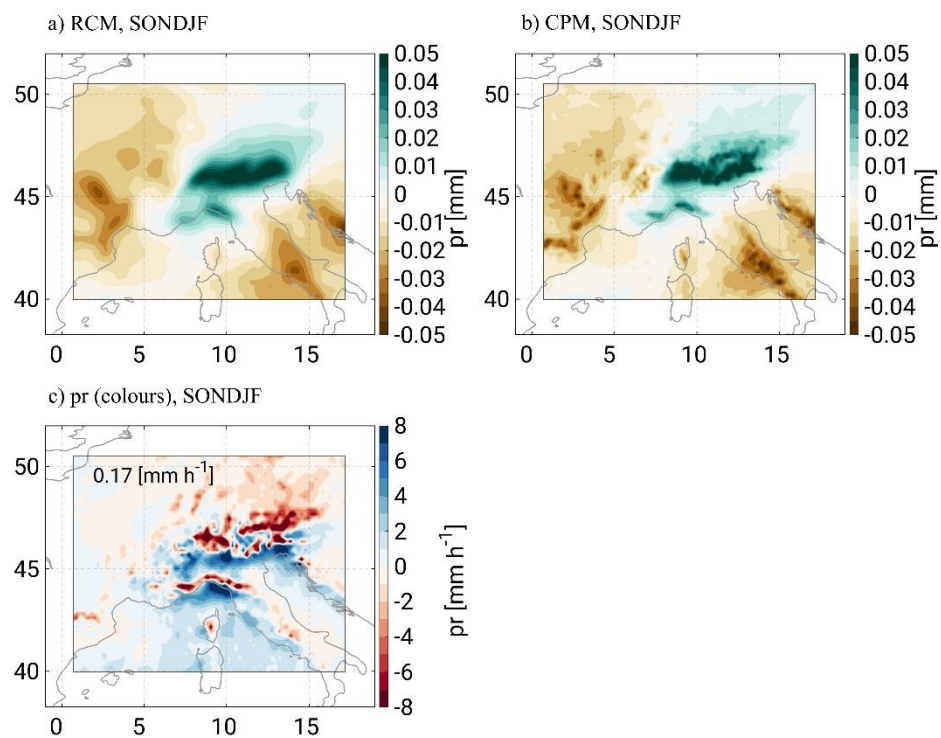
Figure S5. As Fig.9 but for EOF-4

20
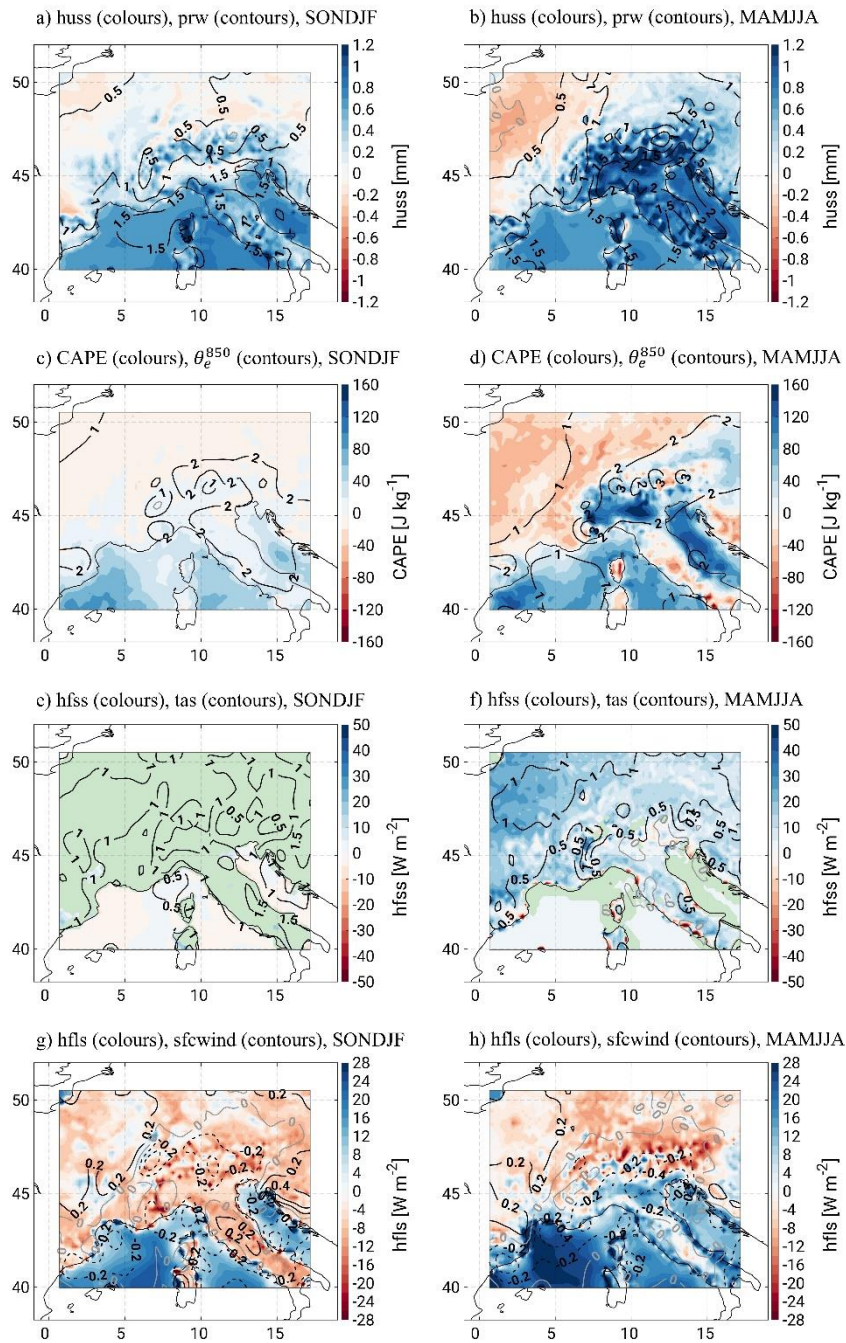
Figure S6. As Fig. 10 but for EOF-2
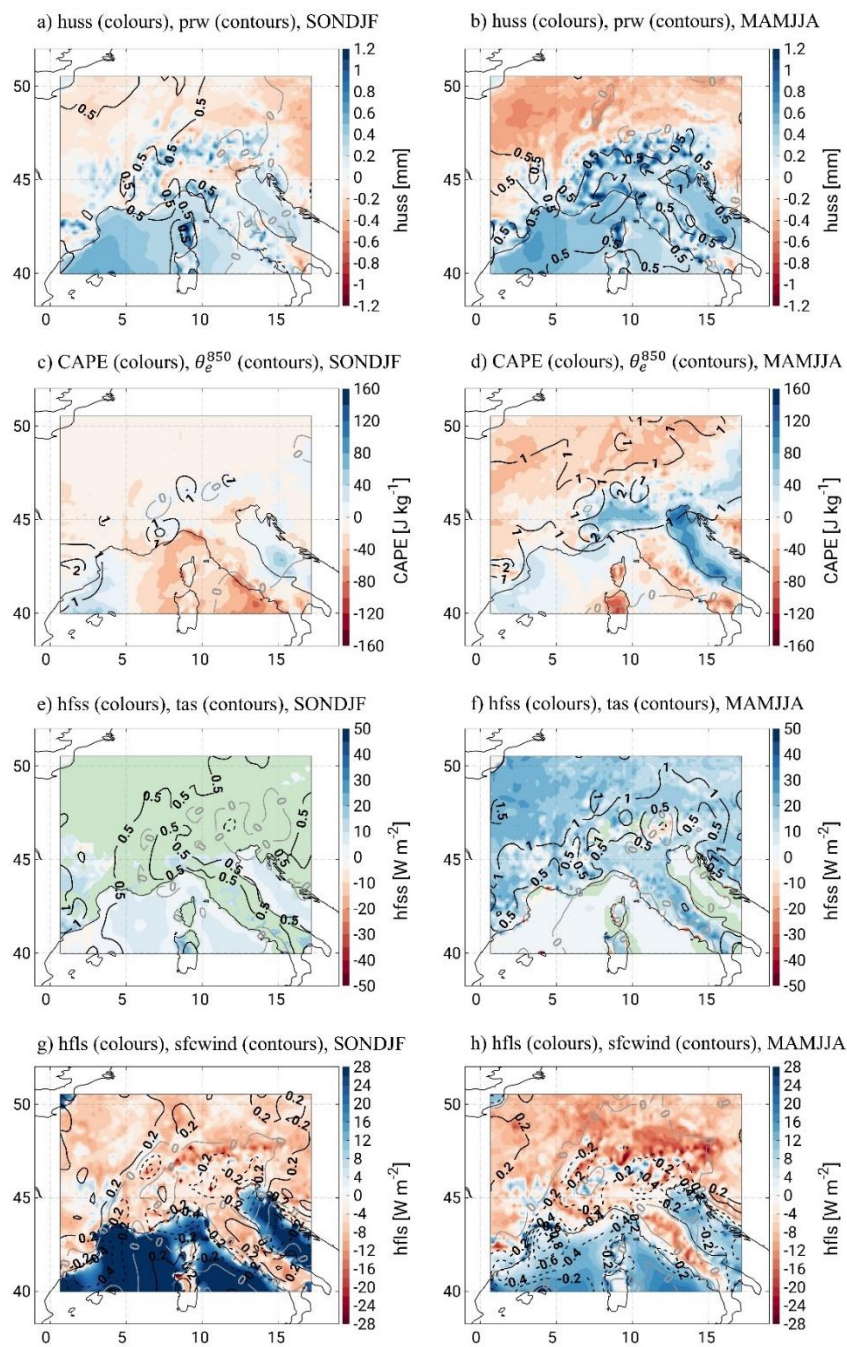
Figure S7. As Fig. 10 but for EOF-3

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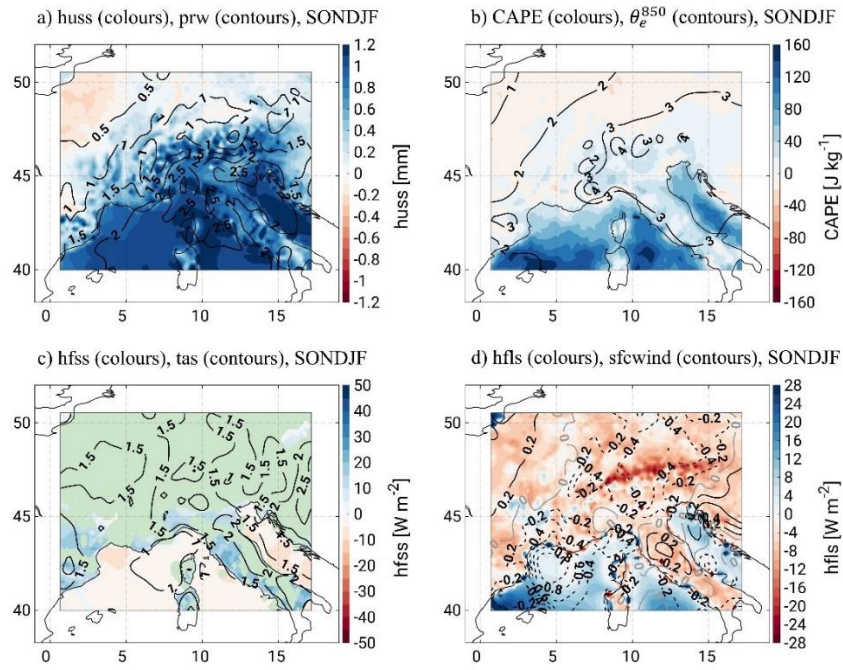
Figure S8. As Fig. 10 but for EOF-4