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## Predictability of prototype flash flood events in the Western Mediterranean under uncertainties of the precursor upper-level disturbance

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Abstract. The HYDROPTIMET case studies 9-10/06/2000 Catalogne, 8-9/09/2002 Cévennes and 24-26/11/2002 Piémont encompass prototype flash-flood situations in the western Mediterranean, attending to the relevant synoptic and mesoscale signatures identified on the meteorological charts. A prominent mid-tropospheric trough or cut-off low can be identified in all events prior and during the period of heavy rains, which clearly served as the precursor agent for the onset of the flash-flood conditions and the cyclogenesis at low levels. Being aware of the uncertainty in the representation of the upper-level disturbance and the necessity to cope with it within the operational context when attempting to issue short to mid-range numerical weather predictions of these high impact weather events, a systematic exploration of the predictability of the three selected case studies, subject to uncertainties in the representation of the upper-level precursor disturbance, is carried out in this paper by means of numerical simulations.

Full Article in PDF (PDF, 2843 KB)

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