



Hailstorms over Switzerland in summer 2012, simulated by the WRF model: climatology, sensitivity, comparison with radar data.

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The summer (JJA) season of 2012 was simulated by the WRF 3.4 model over the Switzerland. A series of simulations were driven by the 6-hourly ECMWF analysis data at a $1/8^\circ$ resolution on a 415×376 , 2-km latlon domain. The main goals of the study were (i) to estimate the capacity of the WRF regional model to reproduce the convective activity, and in particular the hailstorms, in different weather types and (ii) to identify the key physical and dynamical processes, that influence the model performance in complex orographic conditions.

Several microphysics schemes have been tested, as well as the domain size, the vertical resolution and the parameterisation of Alpine orography. The climatology of simulated convective events has been analysed for several subregions of Switzerland and compared to radar-based observations of MeteoSwiss. An optimal domain/model configuration has been elaborated, which will be applied for studying the hailstorm activity over Switzerland in changing climate conditions.