Summertime hailstorms over Switzerland in 2012-2015 in convection-permitting WRF simulations: assessment of modeling performance

Andrey Martynov (1), Luca Nisi (1,2), and Olivia Martius (1)
(1) University of Bern, Institute of Geography, Oeschger Centre for Climate Change Research, Bern, Switzerland (andrey.martynov@giub.unibe.ch), (2) Federal Office of Meteorology and Climatology MeteoSwiss, Locarno-Monti, Switzerland

High-resolution convection-permitting simulations were performed over a Central Europe domain during the JJA periods of years 2012-2015, using the WRF model. The hailstorms, generated in these simulations over the territory of Switzerland, were assessed against the MeteoSwiss radar data and the hail events from the European Severe Weather Database. The performance of the model in simulating the hailstorms was estimated for different regions of the country and was mapped, using the neighborhood methods. The internal variability of hailstorms in performed simulations and their sensitivity to microphysics and vertical resolution were also analyzed.