



Forcing at different spatial scales, leading to an extreme precipitation event in Central-Norway

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An extreme precipitation event in Central-Norway is simulated, and the sensitivity of the precipitation to topography at different scales is explored.

Even though the event is extreme in terms of precipitation amounts, the synoptic-scale forcing described by quasi-geostrophic theory is only moderate.

The simulations reveal that most of the extreme precipitation is a result of forced ascent on a relatively small scale, embedded in close to stationary synoptic-scale flow. The topographic forcing is twofold: firstly, there is direct forcing as the flow impinges the topography. Secondly, the flow that impinges S-Norway is blocked and diverted towards Central-Norway, leading to greater wind speed and an enhancement of the direct forcing.