

Poster.2: . **Convection in future winter storms over Northern Europe**

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Abstract

Precipitation within storms (extratropical cyclones) is very likely to increase towards the end of the century. We investigate hourly precipitation changes in end-of-century winter storms with the first km-scale model ensemble covering northwest Europe and the Baltic region, allowing an explicit representation of convection and slantwise convection. High resolution models agree that moderate and heavy precipitation in the warm sector of storms are responsible for mean precipitation increases. In the most pessimistic model, future winter storms have similar warm sector precipitation rates as current autumn storm, with more Convective Available Potential Energy (CAPE) and Convective Inhibition (CIN). CPMs give more confidence in changes in the warm sector, but the future mean hourly changes are similar to that given by RCMs (apart from one model). Mean changes are driven by temperature increase (with little relative humidity changes) and storm dynamical intensity (more uncertain).