



Extension of the Tiedtke convection scheme to cold convection

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The Tiedtke convection scheme has originally been designed for use in global climate models, with special focus on the correct representation of tropical deep convection. Nevertheless, it currently is in use in various regional climate models and is applied to climatic regions all over the globe. For the regional climate model REMO, which includes the Tiedtke convection scheme, deficiencies of the simulated convective activity have been identified for extratropical cold convective clouds, arising from cold air over relatively warm surfaces in a convectively unstable environment. To enable the scheme to better account for extratropical cold convective clouds, the scheme has been extended to this type of convection. The implementation of cold convection in the Tiedtke scheme as well as some first results will be shown.