

## **Towards operational implementation: A stochastic shallow convection scheme**

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Even at storm-resolving resolutions, shallow boundary layer clouds cannot be explicitly resolved. However, traditional convection parameterisations typically rely on assumptions that are no longer valid at these scales either. To address this problem, a stochastic convection scheme for shallow clouds was developed in cooperation between the Max-Planck-Institute (Hamburg) and the German Weather Service (DWD).

After initial tests and case studies during the development process, the scheme has undergone further development with a view towards operational implementation in the ICON limited area model. A version of the scheme using stochastic differential equations was developed as an alternative, computationally more efficient option. Tests in hindcast-mode over Germany and the Atlantic during the EUREC4A campaign show promising results, reducing systematic errors related to low cloud properties while rendering a number of resolution-dependent tuning parameters and limiters unnecessary.