



## **Comparative evaluations of cumulus parameterizations in regional climate simulations**

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Prior studies have shown that nested regional climate models are sensitive to the choice of convective parameterization. Addressing this issue in the context of the GEWEX Inter-CSE Transferability study (ICTS), a regional climate version of the MM5 numerical model was used to simulate three GEWEX Continental-Scale Experiment regions: MAGS (western Canada), MDB (Australia), and BALTEX (Europe). Each CSE was simulated twice with MM5: once using the Grell scheme for deep cumulus convection, and again using the Kain-Fritsch scheme. Results indicate that comparative performance of the schemes varies both geographically and seasonally. When examined in more detail, the differences can be interpreted in light of the strength of large-scale forcing as well as organization of convection. In general, the Kain-Fritsch scheme tends to better reproduce heavy convective precipitation although at the expense of sometimes simulating heavier precipitation than observed.