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Idealized numerical simulations of atmospheric convection in two dimensions

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The response of atmospheric convection to low-level shear is examined with highly idealized two-dimensional non-hydrostatic numerical experiments of intermediate (4 days) duration, where the environmental conditions for the development of convection are created by the solar cycle. Statistical properties of the simulated convective systems and their relation to environmental parameters are presented. Maxima of precipitation at intermediate values of low-level shear are obtained in days 2 to 4 of the simulation, but not in the first day, which might be too close to an arbitrary initial condition.