

ARE CONVECTION AND INSTABILITY INDICES GOOD INDICATORS OF THE PREDICTABILITY LEVEL?

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Abstract: Moist convection is often seen as a key process promoting rapid growth of small-amplitude initial perturbations on the meso-gamma scale. In this study, this hypothesis is tested by comparing the location of convection to the regions showing a loss in their deterministic skill. The presence of convective processes is derived from instability indices (e.g. CAPE, moist buoyancy frequency...), while the predictability level is determined through the propagation and growth of a perturbation initially introduced in the temperature field of a control simulation. The simulations are performed with the limited-area model LM for the MAP IOP2a case. The LM model is run on a convection-resolving scale of 2.2 km.