



The impact of lateral boundary conditions on monthly integrations Eta regional model

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The intention is to investigate the output of one-way nested Eta regional model with respect to a large scale process under longtime, monthly integration. The idea is to investigate the implicit impact of lateral boundary conditions (LBCs), by moving away boundaries from the control domain. That impact is tested through prediction of variable which reflects large scale of atmospheric behavior - kinetic energy of the jet stream. Namely, researchers which use regional climate models (RCMs) massively practice to force large scale in nested models, with annotation that models in limited area not be able to maintain large scales. In that way, if there is no inner forcing, RCMs lose kinetic energy. This problem is investigated by the Eta model in relatively small domain in the monthly integrations during winter. Control domain covers Europe and one part of Atlantic. LBCs are from AVN analysis and updated every 6h. Model results are verified by the same AVN analysis on the targeted region. It is shown that LBCs can be responsible for a good result in a relatively small integration domain. There is no kinetic energy loss for such domain. Ones again it is shown that the intrinsic dynamics of the model depends on the size of the domain.