



Evaluation of ICON-A, the atmosphere component of the new Max Planck Institute Earth System Model

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We evaluate the first release of the new icosahedral non-hydrostatic (ICON-A) atmospheric general circulation model of the Max Planck Institute for Meteorology. Simulations with ICON-A at a relatively low resolution (160 km) are compared to four-fold higher resolution simulations with the same model. Likewise simulations using the more established ECHAM climate model (version ECHAM6.3) are also presented at low and high (two-fold finer) resolution.

The experiments presented are intended to document the climate of ICON-A for eventual users, they also shed some light on how aspects of the simulated climate depend on resolution, the dynamical core, and the extent to which they are influenced by tuning.

Overall, the simulations indicate that the present configuration of ICON-A provides a compelling representation of the mean climate and its variability. Its climate is roughly similar to that of the last release of the much better established ECHAM model.