

Special configurations

Aquaplanet and radiative-convective equilibrium

ICON can be run in some special model configurations. Configurations that are often used are the **aquaplanet** (APE) setup and the **radiative-convective equilibrium** (RCE) setup. The APE setup assumes that the bottom boundary consists of water only, with all land surface and orography being removed. The RCE setup additionally assumes that top-of-atmosphere insolation is spatially homogeneous and that the planet is nonrotating.

[A description of the necessary changes to the source code and to the run script can be found](#)

[here](#)

both for the RCE and APE setup, using icon-2.4.0 with the climate ("ECHAM") physics.

Instead of running the global model, RCE simulations can also be run on a limited area with doubly-periodic boundary conditions, using the **Torus** geometry. A description of the necessary changes can be found [here](#), again using icon-2.4.0 with the climate ("ECHAM") physics.

The Torus geometry can also be used in RCE simulations with ICON-NWP or ICON-LEM. See next page (link below) for more details.

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