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Cloud response to higher warming conditions over the Tropical Atlantic using the COSMO model

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Using the COSMO model, as part of the EUREC4A modeling project, we present a set of convection-resolving simulations of current and future climate over the EUREC4A study area. The main objectives of these simulations are: 1) to evaluate the capacity of the convection-resolving COSMO model to capture tropical-cloud characteristics from January 1 to March 1 2020; 2) to assess future changes in tropical clouds under the CMIP6-projected global warming, specifically using a pseudo-global warming (PGW) approach based on the GFDL-ESM4 model; and 3) to share this data as initial and boundary conditions for large eddy simulations (LES) over the region. We will present preliminary results regarding the PGW approach.

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