



Climate projections of the ALARO-0 model on the EURO-CORDEX domain

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Results of the future scenario runs are presented within the EURO-CORDEX framework using the regional climate model ALARO-0. This model has been primarily developed for operational numerical weather predictions and is therefore not tuned specifically for climate purposes. It features a new microphysics scheme called 3MT, which allows for a more sophisticated representation of convective precipitation. In Giot et al. (2015) validation results were presented for the 12.5-km and 50-km resolution runs forced by ERA-Interim reanalysis. It was shown that ALARO-0 is well capable of representing the European climate. More specifically, most of the ALARO-0 scores were within the existing EURO-CORDEX ensemble. For precipitation, due to the 3MT scheme, the ALARO-0 model produces some of the best scores within the ensemble. The comparison of the historical run with the climate scenarios runs (RCP8.5, RCP4.5) allows the determination of the ALARO-0 climate changes. These runs are all coupled to the GCM of Météo-France, namely CNRM-CM5. The climate-change signals are investigated with a focus on heavy precipitation and heat wave changes and the signals are put against the ones of the other EURO-CORDEX models (Jacob et al., 2013).

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- Jacob, D., Petersen, J., Eggert, B., Alias, A., Christensen, O. B., Bouwer, L. M., Braun, A., Colette, A., Déqué, M., Georgievski, G., et al., 2014. EURO-CORDEX: new high-resolution climate change projections for european impact research. *Regional Environmental Change* 14 (2), 563-578.