

Interactive comment on “Validation of the ALARO-0 model within the EURO-CORDEX framework” by O. Giot et al.

Anonymous Referee #2

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This manuscript, as its title says, deals with model validation. This means here that temperature and precipitation climatologies of ALARO model are compared with an observed climatology. In addition, the differences between the two climatologies (aka model biases or systematic errors) are compared with differences obtained with other models in a similar exercise (EURO-CORDEX ERA-interim driven). One of these models, ARPEGE, shares with ALARO the same dynamical core (but uses a different grid, a different driving method, and different physical parameterizations). The evaluation is performed for different seasons and areas in Europe. It shows that ALARO is a state-of-the-art model. The manuscript is clear and corresponds to what one would expect from such a study. I should be accepted after a few minor adds or fixes:

1. p 8389 line 27 better predicted: What is improved? The chronology or the intensity?

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Getting a better chronology is not useful for climate application

2. p 8393 lines 16-22: Explain why you interpolate differently temperature and precipitation. Is it to save the precipitation extremes?

3. p 8394 lines 9-11: does it means that CRCO and ROYA are constant whatever the model ?

4. p 8396 last sentence: In fact 20 year is not a short period for such an exercise. When comparing two climate simulations which include interannual variability, even 30 year is short to draw conclusions. But here all simulations and observations follow the same chronology because of the common driving by ERA-interim. So, the signal is not blurred out by the noise of the interannual variability. This is why EURO-CORDEX is limited to the core period of ERA-interim, i.e. 1989-2008.

5. p 8398 lines 10-12: Indeed ALARO is a new comer in this community. But one should stress that the RCM community has trained his models with a 50 km resolution. A large EURO-CORDEX domain at 12 km resolution was a first attempt for most models, because of the computer cost. I do not believe that ALARO is compared with highly tuned climate models.

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GMDD

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