Reply on RC1
Tamas Bodai (Referee)

Referee comment on "The Role of Internal Variability in Regional Climate Change" by Clara Deser and Adam S. Phillips, Nonlin. Processes Geophys. Discuss., https://doi.org/10.5194/npg-2022-15-RC2, 2022

On my statement that “a sound conditional climate change [...] might not be entirely forced, but the evolution of the slow system could introduce an unforced component.” i have some update. The now accepted paper by Singh et al. (J Clim, 2022?)

https://doi.org/10.1175/JCLI-D-21-0176.1

indicates that this would happen to the Southern Ocean surface climate in the CAN-ESM2 model. So, maybe your analysis in the European region is safe. Although, according to experience, models disagree on many things. Furthermore, their methodology is still to be scrutinised; it is different from our proposal for an initialisation scheme aimed at assessing the question of background/initialisation-dependence of climate/some E-statistics. I've written now a blog about it:

https://www.linkedin.com/pulse/background-dependent-climate-tamas-bodai/