

Interactive comment on “Does the AO index have predictive power regarding extreme cold temperatures in Europe?” by Tamás Bódai and Torben Schmith

Anonymous Referee #1

Received and published: 27 May 2020

The study is focused on modelling cold extremes by using EVT tools and covariates such as AO. The objective is to propose an approach to be used for long-term weather forecasting, although the authors tested and used just observational data. From a methodological point of view, there is nothing new except for the idea of measuring the predictive power by using the 'sharpness' criterion introduced by Gneiting in 2007. Thus, results are somehow expected. My main concerns are on the applied tests and on the readability of the manuscript. As for the former one, I suggest to use EDF-tests, while for the latter one I think the manuscript needs to be fully restructured. Results, methodological details, technical discussion, etc. are all mixed through the entire manuscript. Just to make an example, the introduction should give more empha-

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sis on the objectives of the study, what has been already done by others, etc. rather than focusing immediately on technical details.

Some Specific Comments 20 Well, this is true if there is convergence 25 I do not see why the parameters should change from one winter to the other, especially the shape. Maybe some more words on this, would help readers to understand what the authors' view is. 60 There is no need of the first paragraph 65 It is not that evident from Fig. 1 70 Terms of the equations should be explained. 85 Again, the GEV is correct as soon as there is convergence, that is actually very difficult to test as requires very large samples 109 This is a questionable assumption if we say that external forcing and not natural variability is causing the long-term trend (or a combination of the two). Furthermore, I do not see how you can be confident with the robustness. I think it is more fair to just say there is an assumption that may be violated. 155 I suggest to used EDF-tests instead of these two as the focus is on GEV family. 160 I suggest to rephrase this paragraph. Figure 2 is not very informative Figures 7 and 8 Maybe as SOM?

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2020-117>, 2020.

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