

## ***Interactive comment on “Pseudo-proxy evaluation of Climate Field Reconstruction methods of North Atlantic climate based on an annually resolved marine proxy network” by Maria Pyrina et al.***

**Anonymous Referee #1**

Received and published: 12 May 2017

The manuscript "Pseudo-proxy evaluation of Climate Field Reconstruction methods of North Atlantic climate based on an annually resolved marine proxy network" represents a good pseudo-proxy experiment on the efficacy of using proxy records of the bi-valve mollusk *Arctica islandica* to reconstruct interannual variations in SSTs in the northeast Atlantic Ocean. Based on the experiments reported, especially from the more realistic noise-degraded versions, the use of *A. islandica* is indicated as suitable for this purpose, specifically in the region surrounding the British Isles and the open ocean region between there, Iceland, and Norway.

I believe this paper will be suitable for publication in *Climate of the Past* once a number of relatively minor revisions are made. I've noted these in the attached supplement

C1

file, which contains the originally-submitted manuscript with edits for usage along with comments noted using the Adobe Comment facilities for PDF documents.

The most important comment I have from a substantive standpoint relates to the definition of the Z noise variable in Equation 6. This nature of this random variable is critical to how the noise degradation for the pseudo-proxy experiments is defined. It needs to be described for the readers, so they can make judgements for themselves about the experimental results.

Also, in a number of places the references to existing literature need to be updated or extended, as noted in the comment boxes.

Overall, I think this is a good paper, and with the changes noted, will make a good contribution to the literature and provide a reasonable basis on which to attempt a real-world reconstruction of SST's in the region mentioned using *A. islandica* proxy data.

Please also note the supplement to this comment:

<http://www.clim-past-discuss.net/cp-2017-61/cp-2017-61-RC1-supplement.pdf>

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Interactive comment on *Clim. Past Discuss.*, doi:10.5194/cp-2017-61, 2017.

C2