

Egusphere-2025-525: Estimating return periods for extreme events in climate models through Ensemble Boosting

Response to the reviewer's comments by Luna Bloin-Wibe, Robin Noyelle, Vincent Humphrey, Urs Beyerle, Reto Knutti and Erich Fischer.

Co-editor decision: Publish subject to minor revisions

The present paper presents a novel methodology that allows for the construction of ensembles that improve the estimation of the return period of extreme events by reducing the computing time needed to refine naive estimates of this return period. The paper presents a clear methodology and I hope that it will become a useful contribution for the determination of the return period of heat waves and other related extreme phenomena.

We have reviewed all minor details such as typos, missing co-authors and their affiliations, terminology, updates of data in tables, or updates of variables in equations. Additionally, we have supplemented our acknowledgment section by thanking the reviewers for their contributions.