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Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
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Comment on hess-2021-259

Mariaines Di Dato (Referee)

Referee comment on "How is Baseflow Index (BFI) impacted by water resource management practices?" by John P. Bloomfield et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2021-259-RC2, 2021

Due to a technical problem with the Copernicus login, I accidentally posted my review with a different account that was not considered the reviewer. I am copying my review with the official account, as requested by the Editor in order to complete the review process.
I am very sorry for this mistake and I apologize to the Authors and the Editors for the inconvenience.

In this paper, Bloomfield et al. study whether the water resources management activities affect baseflow by correlating the baseflow index with several catchment factors. Such correlations are analyzed by applying two statistical models (multiple linear regression and random forest) to the CAMELS-GB large-sample dataset.

The manuscript is very well written and suitable for publication in HESS.

Major comments

1. The baseflow generation dynamics are poorly described. In particular, the authors could discuss better the choice of the filters.

2. The authors could compare their results with previous work aiming to relate BFI with catchment characteristics (Beck et al. (2013), for instance).

Minor comments:

a. Please, avoid abbreviations like don’t, as in lines 145 and 146.

b. Ln. 177 BEI_CEH instead of BFI_CEH