

## ***Interactive comment on “Human influences on streamflow drought characteristics in England and Wales” by Erik Tijdeman et al.***

### **Anonymous Referee #1**

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Review of: Human influences on streamflow drought characteristics in England and Wales. This study analyses the impact of human perturbation of hydrological drought occurrence using streamflow and precipitation data.

The manuscript is very well written and organized, and introduction and discussion sections are really very sound. I consider the manuscript's topic is also highly suitable for HESS and it contains some novel issues, including the methodology applied to identify anthropogenic modifications of streamflow.

I would recommend the publication of the article in HESS. I include some suggestions and comments related to the need of including some clarifications in the methodological section:

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Page 2. 12. See also Vicente-Serrano et al. (2017) Journal of Hydrology:Regional Studies 12: 13-32, which is covering a similar topic.

Page 5.3 How were the monthly streamflow series created? Averaging the available daily records in a month?

Page 5.8 I understand the existing problems for data gap filling but the existence of gaps also limit calculation of drought indices. If I understand well, all the selected stations showed less than five days of missing data in all months between 1974-2013, so the entire monthly series were complete. If this is correct it should be stated in the manuscript.

Page 6.12-15. Why standardized streamflow and precipitation indices are not used instead of real precipitation and streamflow magnitudes? These indices are comparable spatially and seasonally. Note that streamflow and precipitation distributions are usually biased so this could have some impact on average precipitation and streamflow but also on total magnitude anomalies. The selection of this approach would be justified in some depth.

Page 9.21. It would be also quite interesting not only to analyse the magnitude of correlations but also the time-scales of precipitation accumulation that better correlates with streamflow. Maybe it could provide some relevant differences between natural and perturbed basins.

Page 10.27. See also Vicente-Serrano et al. (2017) four further examples.

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