

## ***Interactive comment on “Characterizing temporary hydrological regimes at a European scale” by M. J. Kirkby et al.***

**Anonymous Referee #3**

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### **1 General comments**

This manuscript deals about monthly duration curves constructed on the basis of European climate data. The ultimate aim is to contribute to address the relative frequency of ecologically critical low flow stages in temporary rivers.

The paper is placed in the context of predictions in ungauged basins – more specifically in the framework of potential future shifts in climate and their implications on the hydrological regime of river systems. Here, the authors have focused their attention on flow flow characteristics in semi-arid catchments.

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There is no doubt that this manuscript perfectly fits into the overall thematic framework of HESS and it certainly is a very valuable contribution.

There are nonetheless a few minor issues that may need to be addressed before final publication.

### **2 Overall context**

The introduction of the manuscript only refers in the first paragraph to the overall context in which this study was placed. Probably, it would be good to have some more developments here on the original aim of the study (what would then also be a good opportunity to further develop on the EU project MIRAGE), what is the so-called status quo of science in this field (especially with respect to the numerous studies that have been made in the context of PUB in the last years), what shortcomings have been noticed in previous papers on certain approaches to overcome this status quo, and in what respect this manuscript will provide new momentum to the assessment of hydrological regimes in ungauged basins.

These paper-specific objectives could then again be discussed in the light of the results obtained, as well as of existing literature (i.e. what new insights have been obtained with respect to the initially described status quo).

### **3 Methodology**

While the methods themselves (as for the choice of the hydrological model, the use of exceedance curves, etc.) are rather well developed, their initial choice could probably have been a bit more discussed.

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#### **4 Manuscript**

Section 2 is entitled 'Model structure' – but when referring to the sub-sections, this title is somewhat misleading, since this section deals about much more than only the model structure *sensu stricto* (the sub-sections deal a.o. about the construction of synthetic climate time series, as well as exceedance curves and other indicator tools). Maybe the manuscript could be structured in a slightly different way here.

It would be good to have Figures cited in the text in a logical order – in its current version, Figure 4 is cited before Figure 3.

#### **5 Literature**

Pickup and Warner is cited in text as having been published in 1975, but in the reference list it is stated as published in 1976.

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