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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Global and regional performances of SPI candidate distribution functions in observations and simulations" *by* Patrick Pieper et al.

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The manuscript "Global and regional performances of SPI candidate distribution functions in observations and simulations" proposes and new methodology to select candidates distributions for calculating the SPI; a widely used standardized drought index. The study is interesting and adds important information to the SPI literature because it evaluates the advantages and shortcomings of previous methodologies designed for the same purpose. It is also well written. So, it should be considered for publication.

I've just two minor suggestions: L.105 The Shapiro-Wilk [...] "is unreliable to evaluate SPI normality (Naresh Kumar et al., 2009)". This is a very important statement, which

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Discussion paper

now I tend to agree with. Please, provide further information regarding it.

The Bayesian information criterion (BIC) is similar to the AIC. However, the BIC uses a different penalty for the number of parameters [ln(n) k]. Can the authors verify if the BIC leads to similar results as those of the AIC.

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