Natural Hazards
and Earth System
Sciences

Discussions

Interactive comment on "Exploring the link between drought indicators and impacts" by S. Bachmair et al.

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Thanks for a very interesting paper on linking drought indices to impacts! However, it seems likely that the monthly series of drought indices (SPI, SPEI, Q and G) and numbers of impacts (I and Ih) will have a certain degree of autocorrelation in them, particularly for longer accumulation periods of the SPI and SPEI. For the significance levels of the cross-correlations to be accurate these autocorrelations need to be taken into account. This could be done by explicitly taking the autocorrelation into account (see e.g. Pyper and Peterman, 1998). Another approach may be to try to remove the autocorrelation from the original series. This could, for example, be done by creating new annual or seasonal series based on the annual or seasonal maxima/minima/averages/counts,

which hopefully would display little (or at least less) autocorrelation than the original monthly series. A drawback of the latter approach is that the number of data-pairs will be reduced and it may not remove the autocorrelation entirely for long accumulation periods. Please discuss the level of autocorrelation in the data series, and if appropriate please take the autocorrelation into account for the analysis.

Reference

Pyper B J and Peterman R M (1998) Comparison of methods to account for autocorrelation in correlation analyses of fish data. Can. J. Fish. Aquat. Sci., 55, 2127-2140.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 7583, 2014.