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

S. Bachmair et al.

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Thank you for drawing our attention to the issue of autocorrelation in cross-correlation analysis, which is highly appreciated. Given the accumulation periods of SPI and SPEI of several months autocorrelation of SPI or SPEI time series is present to some degree. Therefore we considered both suggested approaches.

The aggregation into seasonal time series completely removed the autocorrelation from the impact time series and from SPI/SPEI time series of shorter accumulation periods, but not for longer accumulation periods of SPI/SPEI. Please note that none of the generally observed trends in correlation patterns changed due to the conversion into seasonal data. However, we prefer to apply the method by Pyper and Peterman (1998)

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to keep the monthly time series. For the revised manuscript we corrected the number of degrees of freedom accordingly and re-calculated significance levels. This led to a slight increase in p-values for cases with autocorrelation in the impact and/or indicator time series. Please note that despite these small changes in p-values none of the general observations change. The strength of the correlation remains unaffected and the conclusions drawn from the correlation patterns stay the same.

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

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2, C3648–C3649, 2015

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