

## ***Interactive comment on “Space-time variability of hydrological drought and wetness in Iran using NCEP/NCAR and GPCP datasets” by T. Raziei et al.***

**S. M. Vicente Serrano (Referee)**

svicen@ipe.csic.es

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The manuscript is a good contribution for the studies of drought variability. It provides very new information about the possibilities and precautions of using gridded precipitation and reanalysis datasets to analyse spatial and temporal patterns of droughts. The objectives of the manuscript are stated very clearly. The manuscript is very well organised, introduction is informative and the methods are very suitable according to the objectives of the research. The manuscript deserves to be published in Hyd. and Earth System Science including very few clarifications.

1. Authors used two gridded precipitation datasets. Given the climatic diversity of the region, I would like to see the agreement between precipitation observations and GPCC in Iran. The data provided by Raziei et al. (2010) could be used for this purpose. If a good agreement is found, then the differences between GPCC and NCEP/NCAR can be directly related to some problems of the reanalysed dataset.

2. Why a 24-SPI is selected for analysis? Authors should justify better the selection of this time scale. Thus, the spatial patterns are much complex at long time scales, like 24-months, than shorter time-scales (see Vicente-Serrano, 2006 *Wat. Res. Manag.* 20: 37-60). This behaviour is consequence of the local short-duration but intense precipitation events. If the index is aggregated at long time-scales the role of the intense precipitation events is propagated during a long time, and given the local character of the events, large differences in the SPI series among neighbor observatories can be observed for several months (low correlations). This is a common and unsolved problem in the drought indices, which even makes more difficult the spatial comparability among different datasets.

Sergio M. Vicente-Serrano

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