

Interactive comment on “Effects of different reference periods on drought index estimations for 1901–2014” by Myoung-Jin Um et al.

Anonymous Referee #1

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The impact of selected reference period on drought characteristics quantification is investigated in this paper. This is an interesting research question since the reference period matters under climate change. My major comment is that the research question is diluted many other factors (complexity) in the paper, e.g., two data sets (CRU and UDEL) and different regions. I encourage the authors to focus on the main research question (i.e., the impact of selected reference period on drought characteristics) and provide more insights on the reference period selection. For example, if climate is stationary, does the selected reference period matter? If the reference period is dry, are the quantified drought characteristics more severe in the assessment period? The authors may provide some suggestions/comments on the selection of reference period in practice? For example, is the early period or entire period of historical data recommend for the reference period? Or the author may provide a guideline to select reference pe-

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riod, e.g., the first step is to quantify the existence of trend in climate variables etc. The number of figures can be reduced. Line 26 page 1: change “hazard” to “hazards”? Line 31 on page 1: “state” to “stated”? Line 32 on page 1: “witnessed” to “have been witnessed”? Line 16 on page 2: rephrase the sentence: “They found that local regions” Line 35 on page 3 – Line 7 on page 4: The index and equations are difficult to follow due to the confusing indexes. For example, i is used for month index in line 35 on page 3; but it is used for year index in line 3 on page 4. Line 12 on page 4: “it one of” to “it is one of” Lines 24-29 on page 4: please correct the indexes for equations, e.g., equation (1) on page 4 should be equation (5) Lines 10 on page 5: change “relative to” to “and” Line 34 on page 8 – line 2 on page 9: Are these finding specific to this study or general to any regions and time periods?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-445, 2016.

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