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Comment on nhess-2021-249

Anonymous Referee #2

Referee comment on "Hydrological Drought across Peninsular Malaysia: Implication of Drought Index" by Hasrul Hazman Hasan et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-249-RC2>, 2021

The manuscript investigates drought conditions on the Peninsula Malaysia in between 1978 and 2018 based on monthly discharge data in 42 stations. The manuscript is well organized, even if it requires additional effort to improve the structure of the writing; it mainly presents a case study regional application, which might be improved. Indeed, the innovative contribution to the literature appears to be weak; the Authors should better motivate their work and describe how they are contributing in terms of new methods. Some specific comments follow; I hope that they will be useful for manuscript improvement.

The structure of the text needs some additional efforts from the Authors; specifically, in the Introduction Section there are many repetitions that can be avoided and the arguments presentation should be easier to follow.

L 170-172. I understand that the availability of discharge data is a positive, not so frequent condition. I was wondering if the use of rainfall data together with discharge data might provide a deeper analysis of drought condition with respect of using only the discharge data. I expected a comment on this from the Authors.

L 175, 279-282. The motivation to investigate different temporal resolution appears to be weak; I suppose that different temporal resolution could be of interest depending on the characteristic temporal scale of the storage/supply system. Since this is the main motivation of the proposed work, apart from analyzing the drought condition in Peninsula Malaysia, I believe that the Authors should better explain this issue and justify their choices.

L 476-477. The conclusion that the 3-months SDI better describes the variability of the process in time is almost expected, and does not depend on the results of the analysis.