

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2 https://doi.org/10.5194/hess-2021-543-RC2, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

Comment on hess-2021-543

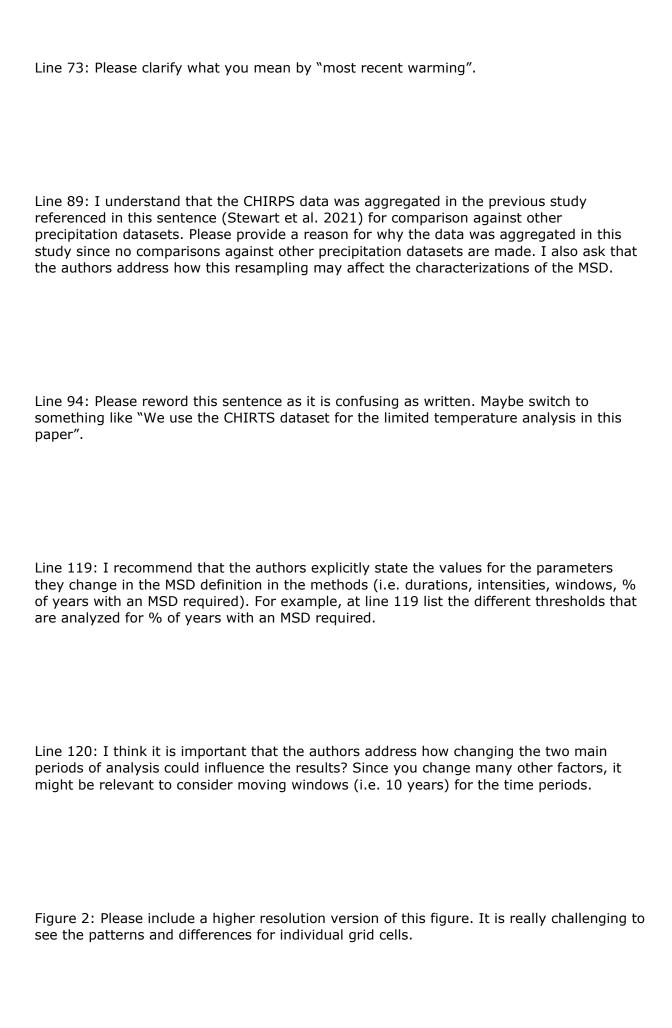
Anonymous Referee #2

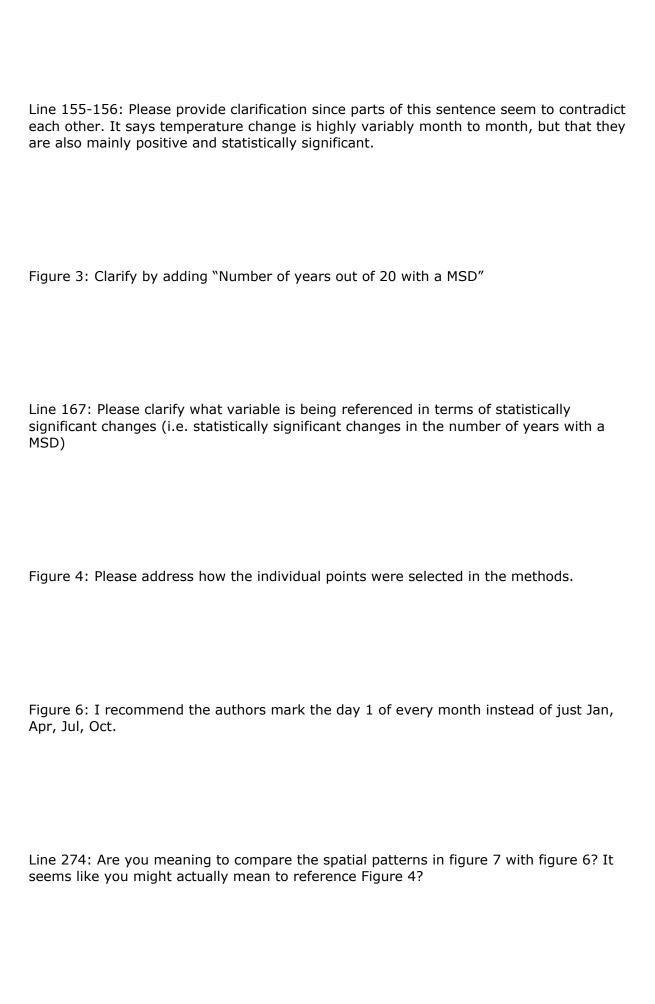
Referee comment on "The Mesoamerican mid-summer drought: the impact of its definition on occurrences and recent changes" by Edwin P. Maurer et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2021-543-RC2, 2021

The authors present a manuscript that evaluates how varying the definition of the Central American mid-summer drought (MSD) impacts the magnitude of observed changes over the last 40 years. The results are of interest to the climate science community because they find that adjusting certain parameters in the MSD definition has significant impacts on changes across the observational record. The manuscript includes a new definition of the MSD in an expanded region, the use of daily data, and analyses of how the MSD parameters influence the results. It is important, as they show that the potential non-stationarity of the MSD should be accounted for in all future analyses. I recommend that this manuscript is accepted at HESS after addressing the following minor revisions.

Line 32: "Many MSD descriptions have originated with the smallholder farmers in the region and often have qualitative components." This sentence seems out of place since no examples of qualitative definitions are provided in this paragraph. I recommend the authors either provide some qualitative definitions to show how they vary or remove this sentence since it appears to be unrelated.

Line 42: Add "observational" between "recent record".





Lines 276-279: Please clarify the logic of this sentence since it is confusing as written. Maybe instead write something like "...net reduction in the overall number of cells classified as having an MSD when considering the difference between the two periods".

Figure 9: I recommend the authors make this a 3-panel figure that includes the original definition for direct comparison with the different thresholds.