

Hydrol. Earth Syst. Sci. Discuss., referee comment RC1
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Comment on hess-2021-461

Anonymous Referee #1

Referee comment on "A hydrological framework for persistent pools along non-perennial rivers" by Sarah A. Bourke et al., Hydrol. Earth Syst. Sci. Discuss.,
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The manuscript entitled 'A hydrological framework for persistent river pools' by Sarah A. Bourke et al., propose a paper that describes a framework for characterizing the hydrology of semi-permanent river pools, as well as some examples of this kind of pools.

Although I find interesting the overall idea of the manuscript, it is not adequate for publication in its present form.

The description of the 'framework' (section 2) is rather overconfident, as this is more a revision of former descriptions than an original one. Sections 2, 3 and 4 are too descriptive, too long and repetitive, the equations are obvious and the figures are of poor quality. Most of this part could be synthesized in the table 1 with appropriate references and some auxiliary text like that in section 5.1.

In my opinion, section 5.2 is of value and deserve publication if some aspects are improved. Mostly, the paper should be readable for everybody not used with Australian geologic units, map coordinates and elevation datum. The map in Figure 6 should represent more information than just the location of unknown pools and the figures should be of better quality. The assumptions and interpretations should be better separated from observations.

Section 6 is rather a discussion than a conclusion, but some discussion is necessary not for showing the interest of 'framework' but for identifying research gaps and further research goals, not necessarily using heavy instrumentation.

Many detailed comments are annotated in the manuscript.

Please also note the supplement to this comment:

<https://hess.copernicus.org/preprints/hess-2021-461/hess-2021-461-RC1-supplement.pdf>