Hydrology and Earth System Sciences Discussions

Hydrol. Earth Syst. Sci. Discuss., referee comment RC2
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Comment on hess-2021-29

Anonymous Referee #2

Referee comment on "Effects of aquifer geometry on seawater intrusion in annulus segment island aquifers" by Zhaoyang Luo et al., Hydrol. Earth Syst. Sci. Discuss., https://doi.org/10.5194/hess-2021-29-RC2, 2021

Major problem of the present paper is the English language. Needs specific attention.

I believe the main contribution of the present paper is the saltwater intrution phenomenon regarding the geometry of the aquifer.

The paper is based on analytical solutions and as it is mentioned in the paper analytical solutions for for slatwater intrution problems cannot incorporate complex factors.

Page 7, lines 122-124 need more explanation

page 8, lines 149-153 , assumption (5) needs more exlanation

page 9, w=θ(Lo +l2 -x) what is θ???? You used this symbol for the angle in previous text.

page 10, Eq. 6 needs more explanation. You mentioned substitution of Eq. 5 into Eq. 4. But Eq. 4 does not contain h. Did you solve Eq. 5 for φ??

page 14, the experimenta scale is very small.

The authors have not considered importants publications on saltwater intrution such as:

Pool,M.& Carrera,J. 2011 A correction factor to account for mixing in Ghyben-Herzbergand critical pumping rate approximations of seawater intrusion in coastal aquifers. Water Resources Research 47 (5), 1–9.

Mantoglou, A. 2003 Pumping management of coastal aquifers using analytical models of saltwater intrusion. Water Resources Research 39 (12), 1–12.