

Interactive comment on “Estimating the thickness of unconsolidated coastal aquifers along the global coastline” by Daniel Zamrsky et al.

Anonymous Referee #2

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I think Zamrsky et al provide a useful global hydrogeology dataset that if the significant suggestions that reviewers have, could be a worthwhile contribution to ESSD.

I first read the paper to gather my thoughts and then read the comments of reviewer RC1. just to be efficient rather than re-iterating verbosely, I will first say that i largely agree with many of the overall and specific comments of RC1 and hope the authors can and will address of all these comments.

I add a few additional suggestions:

the anchor points are important but hard to know how to interpret - i suggest possibly adding a graph of distance of anchor point to shoreline (histogram or boxplot against lithology might also be interesting) - what is controlling this distance?

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similarly, I found the 'four different estimation methods' important but hard to visualise and interpret - could these be shown on a separate graphic or labeled separately on Figure 1? Also, these methods are fine mathematically but I was struck by the question: is there not coastal erosion or geomorphology theory/model/observations that would help determine which method is most likely or better. I am thinking of bedrock fluvial environments where there is well recognized theory/model/observations that predict river concavity, elevation etc. is there anything similar for coastal erosion?

I also wonder if the authors could analyse and report where the coastal aquifer thickness is zero or effectively zero (<5 m or some other cutoff?). It would be interesting to groundtruth these results against remote sensed information of exposed bedrock if possible.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2017-110>, 2018.

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