I appreciate the author's efforts in revising their manuscript in response to reviewer comments and I look forward to seeing this in print at HESS. At this stage there is only one issue about the effect of wave set-up in the author's reply that needs to be resolved before this can be published. Due to the application of this paper specifically to coastal settings I think it is important that this is clarified in the final version of the manuscript. See full response below to the original discussion.

Neglecting wave set-up likely causes an issue in removing the oceanic effects on water levels, especially during surges. For more see the following papers and references therein. 565
da Silva, P. G., Coco, G., Garnier, R., & Klein, A. H. (2020). On the prediction of runup, setup and swash on beaches. Earth-Science Reviews, 204, 103148.
Stockdon, H. F., Holman, R. A., Howd, P. A., & Sallenger Jr, A. H. (2006). Empirical parameterization of setup, swash, and runup. Coastal engineering, 53(7), 573-588.

We agree that waves may affect the oceanic response function. However, due to the high frequency of wave action, these effects would have very little to no effect on the data observed at the monitoring wells in this study. This is due to the low-pass filtering of the sediment which cancels the influence of high-frequency wave action over propagation distance. Wave setup can contribute significantly to groundwater table overheight also induced by tidal motion (Nielsen, 1990; 1999), but the oceanic response function focusses on the time-series dynamics rather than more persistent offsets such as is caused by wave-induced overheight.
We included an explanation with a recommendation to include wave-setup data when analyzing groundwater-level time series close to the shoreline (Lines 237-242):
"Besides ocean tides, waves can have a pronounced impact on near-shore groundwater-level dynamics (e.g., Nielsen, 1999; Housego et al., 2021). Due to the generally high-frequency of the wave dynamics at the shoreline (e.g., Stockdon et al., 2006; Hegge and Masselink, 1991) and the low-pass filter properties of the aquifer sediment (e.g., Rotzoll et al., 2008; Trefry and Bekele, 2004), waves can be assumed not to impact the groundwater-level dynamics at the monitoring wells in this study, which are several hundreds of meters from the shoreline (cf. Table 1). However, the influence of wave dynamics on groundwater levels may be relevant at beach sites or sites closer to the shoreline."

I agree with the authors that the high frequency effects of wave action would not affect the inland groundwater levels. However, the net effect of wave set-up during storms is a long-term modification of the **mean water level at the shoreline due to conservation of momentum from wave breaking** which actually has a long effective wave period and would not be attenuated as described above and therefore could impact inland levels. **It is not a wave-by-wave process.** For example, if there were waves at 5 m offshore for a 2-day period during that entire two-day duration the water level at the shoreline would be elevated 1-1.25 m above the level predicted by using an offshore wave buoy to design the ocean time series. During calm conditions you can neglect this effect but during the storm responses this becomes important. The effect of set-up does attenuate inland and likely becomes less significant beyond 500 m inland where your sites are located. However, this is a methods paper specific to coastal settings so I think it is really important to present this accurately because this could be transferred to other coastal sites where wave setup would be important in terms of designing an accurate ORF, especially for time series where multiple surge events are being removed.