

Response to reviewer 1

Dear reviewer, thanks a lot for your valuable comments. We considered them carefully and will take them into account for the preparation of the revised manuscript.

Comment	Author response
<p>Comment #1: The coastal bathymetry in the western coast of the MD is very shallow and characterized by gradually increasing slopes ranging only between 1:600 up to 1:1200; Since profile of selected transect 2, shallow but continuously increasing is much different from transect 1 where the sudden seafloor increase at the edge of the shelf (see Figure 2) so that some explanations or clarifications should be presented on SwanOne/Delft3D computation resulting wave transmission from offshore to nearshore at location of existing detached breakwater installed (about 100-300m). Those clarifications will be more useful for engineering designs.</p>	<p>According to your comment, the description of the two transects differences at line 128 ff. was supplemented with the following text: "Transect 2 shown an unconventional beach profile as the coastal plain extends 15 km to the ocean just to be continued with a sudden drop to the ocean bed. This type of cross profile represents the beach morphological around Ca Mau cape. While transect 1 shows a more common cross profile which could be found at the rest of the west coast. As SWAN uses the method of stochastic wave fields, a wave running along transect 2 will face a strong transformation when reaching the sudden drop and therefore most likely will break and dissipate its energy. In contrast the shallow and slowly increasing bathymetry at transect 1 might not cause enough interaction to force an incoming wave to break and change its energy spectrum."</p>
<p>Comment #2: Continuing above mentioned, in section from line 300-324 and figure 6, there are different wave parameter computed and measured in transect 1 rather than that in transect 2 should be explained.</p>	<p>Dear reviewer, we calculated the significant wave height and the peak period for both transects where we compared for each the two onsite measurements (red), the Input and result of the SWANOne model (blue) and the input and results of the deltf3d model (green) while the dashed line always gives the offshore location and the solid line the onshore location. However, we will change the text to make this parallel approach more visible.</p>
<p>Comment #3: Reconsider explanation on differences in Hs and Ts between transect 1 and transect 2 (section from line 372 – 380 and figure 7) it is possible mainly due to different bathymetry profiles but not different models (Swan/ Delft3D)?</p>	<p>According to your comment, we had some thought about this as well. However, if the differences would originate from the different models, then the blue crosses (SWAN) would not match the green solid line (Delft3D) which means that both models show rather similar results for the different locations. As a consequence, the difference in periods and wave height must be related to boundary conditions at each transect, and here furthestmost to the different bathymetries. We will add this explanation to the text as well.</p>

Comment	Author response
<p>Comment #4: Regarding term of “return levels of the maximum individual wave height” presented in line 180 and figure 3, an clarification should be made for that term is based on what (design criteria or wave parameter specification); In case a new design criteria should be developed as max wave height level, the figure 3 should be refined technically for not “example“, otherwise that figure should be removed to avoid reading confusion.</p>	<p>Dear Reviewer, I think there might be a misunderstanding here: The maximum individual wave height is actually referring to the data from the ERA5 offshore position at transect 1, which were used to calculate the return levels in Figure 3. The return levels for 10, 20, 30, 50 and 100 year return periods were then transferred to the nearshore by SwanOne to determine design wave heights for the breakwater. So these values are not design criteria but the input wave parameter specification. As we calculated these return levels for different wave heights (Hs, HMax) and as well for the wave period at two positions, the figure was labeled an example since we show only one out of the calculation to illustrate the approach. According to your comment we will adapt the text and figure caption to make this more clear to the reader.</p>
<p>There is no comparison between new recommended method and National design criteria of sea dike (MARD, 2012) on specification of “design wave parameters”, TCVN points must be removed from figure 2 and para in line 401-402 should be reconsidered.</p>	<p>According to your suggestion, we removed the points from the figure. However, the idea of designing the coastal protection according to the number of people living in the protected area is a general Vietnamese concept which is mentioned in the dyke protection regulations and therefore should apply for any protection measure. In the case of our study we only make use here of the recommended return period and therefore decided to keep this citation inside our text. However, the TCVN points were removed according to your suggestion.</p>
<p>Please check the information (line 88-89), long-term wave data are not available from national stations at Phu Quoc island;</p>	<p>Thanks for this hint, according to your comment, we changed the name of the station to Tho Chu which is the closest station to our area of interest featuring long term data. Phu Quoc indeed offers some long-term time series but is out of operation since 2010.</p>
<p>Some recommendations for next studies should be raised in the “conclusion” section.</p>	<p>According to your suggestion, we will add some suggestions for further studies to our conclusion section.</p>