

## ***Interactive comment on “The “shallow-waterness” of the wave climate in European coastal regions” by Kai Håkon Christensen et al.***

**Kai Håkon Christensen et al.**

kaihc@met.no

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*The analysis set out here is very clear, and even though the MS is short and simple, the results are interesting. However, the authors need to be more explicit as to why the shallow- waterness is important, and what different values of  $n$  imply. With the current MS, it is un- clear why any of the four values of  $n$  are important. Presumably the appropriate value of the shallow-waterness parameter  $n$  depends on the application (bottom mixing, surge prediction etc)—this needs to be discussed.*

*Also, the authors need to justify why they chose to couch their cutoff criterion in terms of  $n = c_g/c_p$  rather than something simpler e.g. the orbital motion at the bottom relative to that at the surface, or even simply  $kh$ .*

Please also refer to our replies to Ref. #1 above. We have added a paragraph at the end

C1

of Sec. 2.1 providing an example on how this type of analysis can be used to assess the relevance of the “shallow-waterness” in the context of radiation stress theory, which also explains our choice of the cutoff criterion (2). The Ref. correctly points out that other criteria can be used, in particular if other aspects of the “shallow-waterness” are under study, and we now say so in Sec. 2.1 and the expanded conclusions.

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Interactive comment on Ocean Sci. Discuss., doi:10.5194/os-2016-100, 2016.

C2