

We thank Anonymous Referee #1 for the constructive comments. In the following, we reply to the individual issues raised by the reviewer. Quotes from the referee's comment are presented in *italic*, while our answers are printed below each quote in standard text.

Reply to RC1:

"... the measurements by radar seem to demonstrate some noticeable difference, which the authors relate to the higher acquisition frequency of the device. (By the way, the location AWG is characterized by significantly smaller depth. May be, this is the real clue for the observed difference with other locations?)"

We agree with the reviewer that the differences between buoy and radar measurements can originate from different sources. In our manuscript, we mention the higher acquisition rate of the radar device, as well as different bathymetric conditions at the respective sites and different directional spreading of the wave fields (lines 77-80). Following the suggestion of the reviewer, we will include a comment on the depth conditions at the considered sites and on the influence of a reduced water depth on nonlinear phenomena in a revised version.

"There is no novelty in either approach or conclusion compared to the preceding paper. [...] Thus, the result of this work is just the fact that the work has been done. I cannot recommend publication of this communication."

Here we disagree with the reviewer's position. We would like to reply that the novelty in our brief communication is the data basis that the investigation has been based on. Our research question was whether the correlations identified in Teutsch et al. (2023) generalize to other measurement sites. We demonstrated that the conclusions obtained from a single station in Teutsch et al. (2023) also hold at other stations and are thus not site specific. This is a novel conclusion and we believe that this is valuable for other researchers and should be published. This is also explicitly mentioned in our reply to RC2. We intentionally chose the form of a brief communication and refer to the journal's guidelines, which state that brief communications "... may be used to [...] disseminate information and data on topical events of [...] interest within the scope of the journal." Following these guidelines, we presented a new data basis which generalizes a previously established connection between the soliton spectrum and the occurrence of rogue wave events from a single station to multiple stations. To address the reviewer's concern, we will further emphasize these points in a revised version.

"No arguments presented, why the two new locations (but not others) deserve consideration."

The two sites presented here are the only two remaining sites from Teutsch et al. (2020) that are located in shallow water. The discussed method was established in Teutsch et al. (2023) for a shallow-water site with enhanced rogue wave occurrence. Now the capability of the method is validated for all of the remaining shallow-water stations in Teutsch et al. (2020). We will explicitly mention these arguments in a revised version.

References

- Teutsch, I., Brühl, M., Weisse, R., & Wahls, S. (2023). Contribution of solitons to enhanced rogue wave occurrence in shallow depths: a case study in the southern North Sea. *Natural Hazards and Earth System Sciences*, 23(6), 2053-2073. doi:10.5194/nhess-23-2053-2023
- Teutsch, I., Weisse, R., Moeller, J., & Krueger, O. (2020). A statistical analysis of rogue waves in the southern North Sea. *Natural Hazards and Earth System Sciences*, 20(10), 2665-2680. doi:10.5194/nhess-20-2665-2020