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Interactive comment on "Variations in return value estimate of ocean surface waves – a study based on measured buoy data" *by* T. Muhammed Naseef and V. Sanil Kumar

Anonymous Referee #1

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Review of the manuscript nhess – 2017-165 "Variations in return value estimate of ocean surface waves a study based on measured buoy data" written by T. Muhammed Naseef and V. Sanil Kumar. My recommendation is that the paper is accepted but with major changes. In my view this paper is very interesting and the topic is of special interest for the scientific and engineering communities. However, there are a few outstanding points to mention. In the first instance, with only 8 years of wave data, the uncertainty is too great to estimate extreme values for a 100 year return period. Did you perform any sensitivity analysis? Waves were measured in a water depth of 9 m. In principle the data collected is strongly influenced by the wave period. I am almost sure that in the case of very severe storms there is a high probability that some waves

arrive very steep or broken. Did you take into account these processes for the characterization of extreme values? For the most extreme conditions, in addition to Hs, it is also very important to consider the wave period and the duration of the storm. It is not explained in the paper how the Sea and Swell were separated from the original records. Very useful work has been carried out recently (see references) which does not seem to have been consulted. I strongly suggest the author check the state of the art. Why was the criteria used to separate the seasons that of months? It might be more reliable to use the atmospheric pressure values, as the Monson season is not always the same. It is the first time that I have read in a paper (Acknowledgements) that a contract is xxxx. My major concerns with the paper are: the length of the wave record, the fact that the analysis does not consider the physical processes involved, nor the effect of the wave period, direction of incidence of the waves and duration of the storms.

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