Answer to Referee 2

The authors thank the anonymous referee for his comments, and will answer to each of them.

- *The most important comment I can formulate concerns the introduction. Somehow, the whole introduction deals with wind models in deep water. The fifth part of the paper however, deals with weakly nonlinear propagation under the influence of wind. This part is extremely interesting, but I find the introduction is not really supporting it. The connection between the work on wind models and this part (which clearly exists) could be more emphasized in introduction.*
  A subsection was added to emphasize on the fifth part of the paper, which was indeed not stressed on enough. This new section named **Nearshore Extreme Wave Events** reads:

  Extreme wave events are anomalous large-amplitude surface waves. They are called *freak* or *rogue waves*. It is crucial to understand the physical mechanisms producing freak waves, as well as to obtain an accurate prediction of their dynamics in extreme sea states. A number of mechanisms generating freak waves were identified. Such mechanisms are, for instance, linear space-time focusing, variable currents, interaction waves/currents, modulational or Benjamin-Feir (BF) instability. A classical way to model the BF instability is to use the non-linear Schrödinger equation (NLS). Hence studies on generation and amplification of freak waves due to the wind input in deep water were carried out, see Touboul and Kharif (2006); Touboul et al. (2008); Kharif et al. (2008); Onorato and Proment (2012). However, the influence of *finite depth* is not taken into account and the finite depth growth waves rates were unknown. So, a proper formulation of NLS is lacking in this domain. In this work we are able to produce an adequate model for *nearshore extreme wave events*. This is done using our finite depth extensions of Miles' and Jeffreys theories and the NLS equation in finite depth under the wind action. NLS is exactly solvable and some of its deterministics solutions are good candidates to be weakly nonlinear prototypes of rogue waves in finite depth under wind input. This is the case of the Akhmedian, Peregrine and Kusnetsov-Ma solutions.

- *In introduction, end of section 1.1, the work of Reul, Branger Giovanangeli might be cited to support the claim of the thickening of the boundary layer.*
  This work is indeed relevant, and the corresponding citation has been added.

- *At the beginning of section 2 (page 3103, line 5), the problem is described as "symmetric". I guess the 2D formulation better corresponds to an invariant in Y direction.*
  The formulation has been modified to "We assume the problem to be invariant on the y axis".

- *Some misprints do not help understand the computation (P and P on page 3103, line 20)(Pa=Pa+... on page 3104, line 14)...*
  We modified the notation using subscripts to clarify the derivation. So, P_{raw} and $P_{a,raw}$ are used to denote non-reduced pressures.

- *A few word for justification of for the boundary conditions on Wa and Pa (page 3104, line 20) would be welcomed.*
  The justification has been modified as such: " where W_0 is a wind forcing at the surface level. It ensures that there is always an interaction between the wind and the free surface. The pressure P_a and the amplitude of the wind perturbations W_a vanishes at high altitudes."

References

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