COMMENTS FROM REVIEWER #2:

The authors investigate the impact on the model performance of modelling choices including spatial resolution, adjustments in wind-wave generation and swell dissipation, wave-current interactions, spectral resolution, bottom friction, forcing fields, and parameterizations of physical processes in a regional model that covers most of the Atlantic and North Sea coasts. The authors have presented a very nice and important guiding work that includes almost all the tests that need to be performed for the development of a nearshore wave model. The writing style and details are very well expressed. I think it can be accepted after very few minor corrections.

OBS.1 In the abstract: the fourth sentence of the abstract needs to be rephrased. More events are focused on in the study than are mentioned there. Also, the study does verification but this is not mentioned in the abstract.

R1: The use of buoy and satellite data to analyze the model output will be included in the abstract. The performance analysis approach used in Section 5 will also be mentioned here to cover the different elements included in this study.

The abstract will be modified as follows:

"Numerical wave models are generally less accurate in the coastal ocean than offshore. It is generally suspected that a number of factors specific to coastal environments can be blamed for these larger model errors: complex shoreline and topography, relatively short fetches, combination of remote swells and local wind seas, less accurate wind fields, presence of strong currents, bottom friction, etc. These factors generally have strong local variations, making it all the more difficult to adapt a particular model setup from one area to another. Here we investigate a wide range of modelling choices including forcing fields, spectral and spatial resolution, and parameterizations of physical processes in a regional model that covers most of the Atlantic and North Sea coasts. The effects of these choices on the model results are analyzed with buoy spectral data and wave parameters' time series. Additionally, satellite altimeter data is employed to provide a more complete performance assessment of the modelled wave heights as function of the distance to the coast and to identify areas where wave propagation is influenced by bottom friction. We show that the accurate propagation of waves from offshore is probably the most important factor on exposed shorelines, while other specific effects can be important locally, including winds, currents and bottom friction."

OBS.2 In line 37: "section 3" should be.

R2: Phrase in line 37 has been changed to :

"...Wave measurements used for sensitivity analyses and validation in section 3…"

OBS.3 The title of chapter 4 should be “model performance indicators” and should be separated from the following sub-sections. The sub-headings that appear under the title of chapter 4 should be given under the main title of results and discussion.

R3: Chapter 4 has been renamed as “Model performance indicators” and a new Chapter 5 has been created entitled “Sensitivity analyses results and discussion” which contains the previous sub-sections from Chapter 4.

OBS.4 In line 169: “Ponce de Leon” must be.

R4: Thanks for noting this. The bibtex file will be corrected to properly display the name of the cited author.

OBS.5 In Fig. 9: “Sgnificant” must be “Significant”

R5: Misspelling in Fig.9a has been corrected to “Significant wave height”

OBS.6 In line 232: “were presented in Fig. 4” must be.

R6: Phrasing in line 232 was changed to :

“Bathymetry details of these locations were presented in Fig. 4.”

OBS.7 In line 309: “altimeters” must be.

R7: Misspelling in line 309 was corrected to “altimeters”.

OBS.8 In the title of Fig. 14: please check this word “mayor”

R8: Thanks for pointing this out. Phrasing in the caption of Fig.14 was changed to:

“ Magenta ovals in (b) highlight areas with largest bias reduction”