Ocean Sci. Discuss., 12, C1273–C1276, 2015
www.ocean-sci-discuss.net/12/C1273/2015/
© Author(s) 2015. This work is distributed under
the Creative Commons Attribute 3.0 License.

Ocean Science
Discussions

Interactive comment on "Combining operational models and data into a dynamic vessel risk assessment tool for coastal regions" *by* R. Fernandes et al.

R. Fernandes et al.

rodrigo.maretec@ist.utl.pt

Received and published: 4 December 2015

Many thanks for the valuable comments and the time dedicated to the manuscript. In the meanwhile we were able to accomodate all your suggestions and we are now submitting the new manuscript version. We answer to all your comments below:

General comments:

"Some deeper testing and model response evaluation would have been appreciated. In fact the results present an illustration of the model capacities looking at global tendencies without quantifying the amplitudes of variation of neither the input conditions,

nor the risk value response, due to the lack of calibration of the absolute risk value." Authors: We have now included a more complete and exhaustive results analysis, including sensitivity analysis to metocean conditions, calibration procedures, testing of the influence of different oil types, etc. We believe that the major review included now in the results section significantly increased the evaluation of the limits, thresholds and capacities of the implemented risk model in the pilot area, answering to the limitations detected by the reviewer.

"The perspectives should highlight in a more clear way the need and intention to proceed shortly to the calibration to allow deeper analysis of the results." Authors: We understand the misunderstanding generated by mentioning future calibration. Since in the reviewing we have extended the analysis (with more calibration and sensitivity analyses), we removed the mention of "The possibility of further calibration in risk model" for the future. What must be done in the future is the evolution along time for longer periods.

"The model structure (Comment A.1) should be mentioned in the abstract and detailed more clearly in the first sections of the paper. Apart from this point, the description of the implementation of the modelling tool is clearly exposed although few explanations are ′missing and there are several expression or nomenclatures aspects that need to be clarified in the final manuscript. There are many tables, some of them may be grouped together to allow easier reading. Dimensions and ratio aspects of some of the figures should be harmonized." Authors: All these valuable comments were taken in consideration, solved and also explained in the following lines.

Details of the principal comments:

A.1: Corrected as suggested. Included at section 2.2. Few words included in the abstract.

A.2: Corrected as suggested.

A.3: Corrected as suggested.

A.4: New nomenclature was adopted as suggested. In relation to Equation 9: Although shoreline contamination can be computed for the whole vessels in the area of influence (using percentile), the formula presented is always per vessel, for simplicity reasons when explaining the algorithm. Therefore, no change was made in formula.

A5: Clarified as suggested.

A6: Corrected (no problem was found on page 1343 line 4; in page 1243 line 4, correction was made in page 1346 – we suppose reviewer wrote down the wrong page; page 1348 line 28 corrected; Page 1354 line 16-17 corrected)

A7: corrected as suggested.

A8: corrected; some of these mistakes were not originated in the manuscript – they came from typesetting edition, I suppose.

A9: Specified as suggested.

B1: Information about public access was done as suggested.

B2: - Justification done. The selection of types of vessels to include in this risk model was mainly based on the information used by reference Espada Pratas, 2007. In their study they don't take in consideration passenger vessels, recreational ships or fishing vessels when navigating in the open sea, having in mind that the risk analysis is based on water pollution. Additionally, in our work we also filter any kind of vessels with more than 100 DWT, for computational reasons. The risk model takes in consideration approximately 100 vessels, after applying the mentioned filtering.

B3: Done as suggested.

B4: done as suggested; table 3 was removed and merged into table 2.

B5: done - table C2 was eliminated; correction factors were also merged into one table

B6: done as suggested.

B7: the figures 3 and 4 were kept separated, to provide more detail to the reader in relation to the graphic user interface.

B8: in this revision, we have generated new figures and replaced others – we were careful to harmonize the figures as much as possible.

Interactive comment on Ocean Sci. Discuss., 12, 1327, 2015.