

***Interactive comment on “A synthetic map of the northwest European Shelf sedimentary environment for applications in marine science” by Robert J. Wilson et al.***

**Anonymous Referee #2**

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I found the manuscript very interesting and well structured. The topic and the dataset here presented are both particularly timely. Indeed, the knowledge of the sedimentary environment on continental shelves is a crucial information for the national implementation of the marine strategy framework directive (MSFD, Art. 11, Dir. 2008/56/CE). I appreciated, moreover, the validation part of the dataset (Section 2.3.1), which reinforces the usability of the products.

My minor concerns are about the Introduction and Section 2.2.4:

In Introduction, the authors should include a paragraph fully dedicated to the application of their dataset to coastal geomorphology. Following the line 15-22, I realized that a

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paragraph on the crucial role of sediment composition on delta evolution is missing (see Edmonds & Slingerland, 2010; Falcini & Jerolmack, 2010)

In Section 2.2.4, the authors should discuss the effect of wave-supported sediment gravity flows currents (see Wright et al., 2001; Wright & Friedrichs, 2006; Friedrichs & Wright, 2006; Falcini et al., 2012). Observations off the Eel and the Atchafalaya River mouths (USA) revealed, indeed, a systematic cross-shore transport of wave-induced resuspended sediment due to the effect of gravity. I am wondering if this effect should be included when slopes and wave characteristics are comparable with those analyzed in the works I mentioned. At least, a comment is needed in this section.

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