

Interactive comment on “Simulating barrier island response to sea-level rise with the barrier island and inlet environment (BRIE) model v1.0” by Jaap H. Nienhuis and Jorge Lorenzo-Trueba

Anonymous Referee #2

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This manuscript describes a modified version of the Lorenzo-Trueba and Ashton, 2014 numerical model. The authors have included many important additions such as accounting for fine sediment and tidal inlet dynamics. The background section does a good job describing previous studies and their limitation and how the BRIE model addresses many of these gaps, specifically the inclusion of tidal inlet dynamics which as the authors point out can contribute large volumes of sediment to the flood tidal delta. The authors present the numerical model development through detailed description of the processes included, equations used and assumptions made. While a table of variable is included, it would be helpful to include some of the more frequently used variable in the text after they are first presented.

The long term simulations presented do an efficient job indicating the stability of the BRIE model and the differences in the barrier island response due to the inclusion of inlet dynamics.

Some minor edits and notes: P07L22: Brenner et al. 2015 is not in references P15L27: ...transgressing stretch stay in... → ...transgressing stretch to stay in... P16L20: ...does not dependent... → ...does not depend... P17L27: ...alongshore transports processes... → ...alongshore transport processes...

Fig2 b : increase the text size on some of the labels (e.g. coarse sediment and sub-script) Fig7 : missing a,b labels that are described in the caption

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Discussion paper

