The work presented in this paper extends the Coastal Evolution Model (CEM, Ashton and Murray, 2006a) including a two-dimensional sediment redistribution numerical scheme based on a slope stability condition. As in CEM, the model responds to a single process, the alongshore gradient in sediment transport, allowing for the redistribution of sediments along the coast. In addition, the geometric condition on the slope stability allows for the numerical redistribution of sediment in adjacent cells. The authors unravel the sensitivities, or the signal-noise ratio, that several factors originate on a few behavioral indices output by the model. The new CEM 2D model is compared with the original CEM through a numerical experiment. In this numerical experiment, both models are loaded with wave climates accounting for several directional distribution of waves with the same height and period in order to explore the morphological features originated in plan-view by both models in the very long term (3000yr).

Major comments

The authors claim two novelties in CEM2D in comparison with CEM. The redistribution of sediment in the cross-shore direction and the response to changes in sea level. However, in the present document, the improvements that this numerical redistribution of sediments introduces in landscape evolution over the previous model are not clear. And the response to changes in sea level is even not explored through the paper. I have also got the impression comparing Figure 10 and Figure 11 that this redistribution changes the spatial scale of the features developed due to probably a reduction on the effective alongshore flux due to this sediment redistribution scheme. The CEM2D model produces very different results for example for A=0.5 with any U and what seems to be a numerical instability for U=0.75, A=0.6. The authors should have examined these big differences in model behavior. In general, it is important to highlight what new features are better represented in the new version and what are the implications for coastline shape simulation, and a simple comparison with the old model results is not enough. For example, Antolinez et al. (2018) use CEM for hindcasting 150 of shoreline evolution in the Carolinas capes, but they don't account for changes in sea level, this new CEM2D model brings a great opportunity to account for this process adequately and to show what CEM is missing.

The authors claim this new model is a 2D model, however the model is still a single process model, alongshore sediment transport, with numerical diffusion in 2D using a stability slope condition. The model would not work in waves perpendicular to the coast. In my opinion, it is not consistent to claim a 2D model that is only solving alongshore sediment transport with an integrated semi-empirical formula, why the authors don't solve sediment transport at cell level? How is this integrated transport redistributed in the cross-shore? Or is it all taken from the adjacent cell to the shoreline position? If the last, I have the impression that the model would create spurious shoreline change behavior as it has the possibility to remove a lot of sand from the adjacent cell to the shoreline in alongshore direction and later on the need to redistribute sediment in the cross-shore direction due to the slope criteria, when in nature sediment would have been taken gradually from several cells in cross-shore direction; your slope condition is changing the cross-shore profile shape in the upper-shoreface in time, could you validate this?

I also miss a lot of discussion and review of recent existing models accounting for alongshore and cross-shore responses and accounting for changes in sea level, for example, Larson et al. (2016), Vitousek et al. (2017), Robinet et al. (2018), and Antolinez et al. (2019).

In the abstract the authors explain the model is suitable for evolving morphological features in time scales from 10 to 100 years, but any analysis is performed in these timescales.

I support the idea of changing the bathymetry, but what is the added value if wave transformations are still assuming parallel contours to the shoreline as in CEM? other models such as Robinet et al., 2018 already account for a scheme propagating waves in complex bathymetry and studies such as the one presented in Limber et al. (2017) proofs its importance.

I can read several times through the text the authors acknowledge certain model limitations and they propose to incorporate improvements in coming versions, why do not incorporate them now? (for example, lines 238-240)

Certain Figures are not properly presented, for example Figure 10 and Figure 11 cut the model domain and shoreline shapes are not complete, Figure 9 has different color markers in the legend than in the subplots.

I encourage the authors to review their analysis and resubmit a complete new version making emphasis in validating what new features their 2D numerical scheme brings in landscape evolution and encourage them to discuss the main points I have made through the text (e.g. profile shape, numerical sediment diffusion, integrated vs in cell sediment transport computations, sea level changes, wave propagation in complex bathymetry, cross-shore processes, …).

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