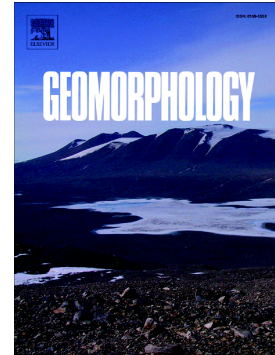


Accepted Manuscript

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PII: S0169-555X(18)30309-X
DOI: doi:[10.1016/j.geomorph.2018.08.014](https://doi.org/10.1016/j.geomorph.2018.08.014)
Reference: GEOMOR 6477
To appear in: *Geomorphology*
Received date: 31 October 2017
Revised date: 8 August 2018
Accepted date: 8 August 2018

Please cite this article as: Carmen Zarzuelo, Alejandro López-Ruiz, Andrea D'Alpaos, Luca Carniello, Miguel Ortega-Sánchez , Assessing the morphodynamic response of human-altered tidal embayments. *Geomor* (2018), doi:[10.1016/j.geomorph.2018.08.014](https://doi.org/10.1016/j.geomorph.2018.08.014)

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Assessing the morphodynamic response of human-altered tidal embayments

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Abstract

The morphodynamics of coastal embayments and estuarine areas are defined by the flow conditions since tidal, wind and wave-induced currents are the main drivers of the sediment transport. In turn, gradients in the resulting sediment transport define sedimentation/erosion patterns and hence the morphodynamic evolution of these systems. Any modification on the average flow conditions, such as those generated by human interventions (i.e. bridge, port constructions or dredging interventions), can be considered as a potential driver inducing morphodynamic changes. This work analyzes the effect of human interventions in estuarine areas and coastal embayments and explores the applicability of tidal asymmetries and residual currents as a proxy for the prediction of the morphodynamic consequences of these interventions. A calibrated and tested numerical model with hydrodynamic and morpho-

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