Supporting Information for

Variable-density flow and solute transport in stratified salt marshes

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Submitted to *Frontiers in Marine Science* on 29/10/2021



Figure S1. Temporal variations of solute distribution contour linne (in red, $0.0001C_0$) and pore water salinity distributions in Cases L-K1 and L-K3. The green dashed line represents the boudnary between the mud (upper) and sand (deeper) layers. All the plots show conditions at mid rising tide, with the arrows representing the correspoding pore water flow field.



Figure S2. Temporal variations of solute distribution contour linne (in red, $0.0001C_0$) and pore water salinity distributions in Cases L-C30, L-C25, L-C20 and L-C15. The green dashed line represents the boudnary between the mud (upper) and sand (deeper) layers. All the plots show conditions at mid rising tide, with the arrows representing the corresponding pore water flow field. Note that Case L-C15 does not consider the density contrast between surface water and proc water.



Figure S3. Temporal variations of solute distribution contour linne (in red, $0.0001C_0$) and pore water salinity distributions in Cases L-D1 and L-D3. The green dashed line represents the boudnary between the mud (upper) and sand (deeper) layers. All the plots show conditions at mid rising tide, with the arrows representing the correspoding pore water flow field.