



## **Resuspension events in a micro-tidal shallow bay using coupled wave-current model**

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In this contribution we investigate the observed resuspension events in Alfacs Bay (semi-enclosed bay in The Ebro Delta, NW Mediterranean Sea) using a wave-current coupled model. This bay is characterized by a micro-tidal environment and a relevant seiche activity which may lead velocities more than 50 cm·s<sup>-1</sup>. A set of ADCP and OBS moored at sea bottom were used to acquire hydrodynamic and optical information. The time-series observations showed an evident relation between seiche activity and the sediment resuspension events. The implementation of a wave-current coupled model shows a strong spatial variability in terms of combined bottom stress. Significant wave height of 0.4 m are modeled during energetic wind events. A significant correlation between the resuspension events and the combined bottom stress are observed. The numerical results reveal two different mechanism to explain the resuspension events observed: during the Seiche episodes the combined bottom stresses are controlled by the current-induced bottom stress. Otherwise during strong winds the combined bottom stress are controlled by the wave-induced bottom stress.