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## **Significance of the sediment properties and aquatic environmental conditions on the erodibility of deposited beds**

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### **ABSTRACT**

The reliability of the prediction of sediment transport loads in aquatic environments is significantly dependent on the sediment bed behaviour regarding erosion. Besides, the ambient environmental conditions the residence or consolidation period may generate changes in the nature and structure of the sediment deposits. This review highlights the importance of the sediment properties in the assessment of their re-suspension and mobilization. Unconsolidated cohesive beds of sediments often displays lower critical shear stress values at the solid-water interface than those observed for the same sediment type but in consolidated beds. When dealing with cohesive sediments, the time dependent physical and biochemical processes are among the main aspects that influence the observed higher resistance to erosion. A prior characterization of the local material accumulated in the studied environment is crucial in enhancing transport prediction performance.