



Observations of sediment resuspension and transport in the nearshore zone, Gulf of Lion, France

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Threshold values for sediment resuspension and the displacement direction of the suspended sediment are evaluated at 2 beach locations along the coast of the Gulf of Lion (NW Mediterranean Sea). The westernmost measurement site (Leucate beach) was instrumented with bottom mounted ADCP and ADV in the depth range 3 - 8 m; the easternmost site (Sète beach) was equipped with wave-recording current meters and pressure sensor arrays in the depth range 6 - 2 m. On average the sediment resuspension has been observed during storms with significant wave height > 2 m and a current speed with values > 50 cm/sec. The mean direction of the suspended transport is northeastward, longshore with respect to the coast. However, pulse of large offshore sediment flux has been also observed. Thus, we can conclude that our results both confirm that the longshore transport is one of the dominant component for sediment transport, and suggest that the offshore sediment flux is not negligible and can have an important impact in terms of beach erosion. Indeed, this phenomenon affects the two studied sites.