Geophysical Research Abstracts, Vol. 8, 08884, 2006
SRef-ID: 1607-7962/gra/EGU06-A-08884

Organic rich particle transport in submarine canyons

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Organo-mineral aggregates are more easily remobilized in the benthic boundary layer than the sediment surface beneath. They are thus easily transported, playing a crucial role in transport of organic material from the continental shelf to the deep ocean floor.

Sediment erosion thresholds, settling velocities and biogeochemical characteristics of resuspended aggregates from submarine canyons of the western European continental margin were determined. Bottom sediments had a thin surface layer that was resuspended as organic rich particles (100-500 μm) under critical shear velocities of 0.7-1.0 cm/s and settling velocities of 0.01 – 0.19cm/s. The particles revealed different geochemical composition and pressure effects on carbon degradation rates. The talk compares different canyon systems.