

Abstract Submitted
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Turbidity Currents in Meandering Channels MOHAMAD NASR-AZADANI, MICHAEL ZOELLNER, ECKART MEIBURG, UC Santa Barbara — We consider continuous, particle-laden gravity currents flowing along sinusoidal submarine channels bounded by levees, with special emphasis on the sediment transport. We investigate these flows via highly resolved three-dimensional direct Navier-Stokes simulations, based on an immersed boundary representation of the channel topography. Results are reported from a parametric study that focuses on shear stress profiles along the channel bed, secondary flow structures in channel cross-sections, lateral overflow over the levees, and sediment deposition, as functions of the channel geometry, the flow parameters, and the particle settling velocity.

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