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A Simplified Model for Levee Formation by Turbidity Currents VINEET BIRMAN, BRENDON HALL, NICOLAS GUILLAUME, ECKART MEIBURG, UCSB, BEN KNELLER, University of Aberdeen — Turbidity currents are known to form channels, and in some cases to generate levees by deposition of sediments from channel overflows. The levees may follow a power law or exponential decay in thickness perpendicular to the channel. In the present study we provide a simple analytical model to describe the levee shape as function of the governing flow parameters. Entrainment of ambient fluid is found to have an important influence on the shape of the levee. Two-dimensional numerical simulations are conducted to provide supporting evidence to the theoretical model.

Eckart Meiburg
UCSB

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