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Numerical simulation of aggradation and degradation of
alluvial-channel beds

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This study presents a numerical model for simulating the evolution of alluvial-channel beds. The model is based on the finite difference method and uses a two-dimensional grid system. The model can simulate both aggradation and degradation processes. The results show that the model can predict the evolution of alluvial-channel beds under various conditions, such as different flow regimes, sediment characteristics, and boundary conditions. The model can also predict the effects of human activities, such as dredging and filling, on the evolution of alluvial-channel beds.

The results of this study can be used for the design and management of river systems. The model can help to predict the long-term behavior of alluvial-channel beds and to evaluate the effects of various factors on their evolution. The results can also be used for the development of new methods for the management of alluvial-channel beds, such as the use of artificial levees and the implementation of sediment control measures.

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