

Parallel Landscape Erosion Project

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This project will modify a landscape erosion simulation to run on a parallel cluster using MPI. Performance of the original sequential program will be compared to that of the parallel code, using a profiling tool. Conversion of the program will be done incrementally beginning with the main function, then proceeding to the two major model functions which solve the water and sediment conservation equations. The program will be distributed among the cluster processors using a column-wise (down slope) partitioning of the land grid. Results for two different slopes, and two different bottom boundary conditions will be verified to make sure the parallel code produces valid results.