

The role of pipe erosion and slopewash in sediment redistribution in small rainforest catchments, Sabah, Malaysia

Abstract

The role of pipe erosion and slopewash in the redistribution of sediment in small rainforest catchments was investigated at sites in the Danum Valley Conservation Area in Sabah, Malaysian Borneo. Data loggers coupled to turbidity and flow depth sensors were installed in pipeflow and streamflow sites and the erosion bridge technique and overland flow traps were used to examine slopewash. The discharge and sediment responses from pipeflow and streamflow to nine storm events are presented. A single monitored pipe was found to contribute between 8 and 33% of stream stormflow and 3 to 61% of the stream sediment load in individual storm events. Overland flow, though comprising only a small proportion of rainfall, was found to be widespread and frequent, which may help to explain the comparatively high slopewash rates indicated by the erosion bridge results.