

## Upstream migration of autogenic knickpoints

# Risa Sannou[1]; Tetsuji Muto[2]

[1] Environmental Studies, Nagasaki Univ.; [2] Environmental Studies, Nagasaki Univ.

Knickpoint is a transient geomorphic aspect in a river system which represents abrupt change in channel longitudinal slope resulting from external forcing (e.g., drop in base level). The present experimental study examines (1) how knickpoints can form in an alluvial river that is responding to a sudden increase in upstream water discharge, and (2) how the formation of knickpoints is related to fluvial grade and non-grade. Results of runs of the flume/tank experiments suggest that (1) knickpoints occur when the alluvial river is in process of recovering grade, (2) knickpoints forming during grade tend to disappear before reaching the alluvial-bedrock boundary, and (3) the mode of alluvial response to external forcing can be different by bed material.