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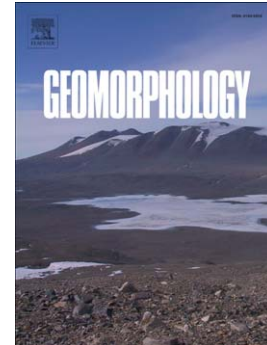
Drainage development and incision rates in an Upper Pleistocene Basalt-Limestone Boundary Channel: The Sa'ar Stream, Golan Heights, Israel

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**DRAINAGE DEVELOPMENT AND INCISION RATES IN AN UPPER PLEISTOCENE BASALT-LIMESTONE
BOUNDARY CHANNEL: THE SA'AR STREAM, GOLAN HEIGHTS, ISRAEL**

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ABSTRACT

Long-term fluvial incision processes and corresponding geomorphic evolution are difficult to quantify, especially in complex systems affected by lithological and tectonic factors. Volcanic landscapes offer the most appropriate environment for the study of landscape evolution, as there is a clear starting time of formation and the lithology is homogenous. In the present study we aim to: (1) analyse the interplay of construction and incision processes throughout eruptive activity; (2) study fluvial erosion processes; (3) analyse sedimentary and volcanic lithological responses to channel erosion; and (4) calculate the incision rates in young basaltic bedrock.

We have integrated existing and new $^{40}\text{Ar}/^{39}\text{Ar}$ ages of lava flows with estimates of channel geometry and tectonic activity, and considered process geomorphology concepts, to fully understand evolution of a bedrock channel incised at the boundary between basalts and sedimentary rocks with coeval active volcanic processes forcing drainage evolution. Our findings indicate that the Sa'ar basin

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