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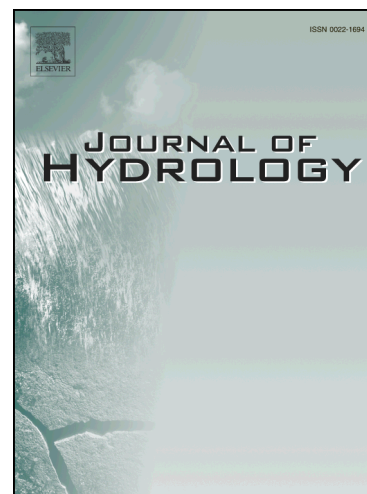
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Variability of Streambed Hydraulic Conductivity in an intermittent stream reach regulated by Vented Dams: A case study

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Abstract

The hydro-geological properties of streambed together with the hydraulic gradients determine the fluxes of water, energy and solutes between stream and underlying aquifer system. Dam induced sedimentation affect hyporheic processes and alter substrate pore space geometries in the course of progressive stabilization of the sediment layers. Uncertainty in stream-aquifer interactions arises from the inherent complex-nested flow paths and spatio-temporal variability of streambed hydraulic properties. A detailed field investigation of streambed hydraulic conductivity (K_s) using Guelph Permeameter was carried out in an intermittent stream reach of the Pavanje river basin located in the mountainous, forested tract of western ghats of India. The present study reports the spatial and temporal variability of streambed hydraulic conductivity along the stream reach obstructed by two Vented Dams in sequence. Statistical tests such as Levene's and Welch's t-tests were employed to check for various variability measures. The strength of spatial dependence and the presence of

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