

x The geomorphology of the Eastern Badia, Jordan

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The Eastern Badia of the Hashemite Kingdom of Jordan is a landscape developed predominantly on late Tertiary and Quaternary basalt lava flows, which vary in age between 8.9 million and 0.1 million years. Pyroclastic deposits are associated with remnant volcanic cones. There is limited, seasonal rainfall. Natural vegetation regenerates during cool, damp months. Slopes, which range from concave to convex forms and have varying relief, can be related to different basalts and the time since emplacement. Much of the ground surface is mantled with boulders. In many places the continuity of boulder cover produces a desert pavement. Clasts show differing degrees of burial or exhumation, depending on the surrounding topography. Water and sediment movement are important. Much sediment is deposited in pans, which evolve at topographic lows. The pans, known locally as Qa and Marab, vary in form depending on drainage network development. Groundwater is significant, with three aquifers beneath much of the Eastern Badia. Recharge of the upper aquifer is predominantly on the footslopes of the Druze mountains, with a north-to-south flowpath. Groundwater extraction has resulted in the expansion of agriculture, with consequent changes in soil and water quality.

KEY WORDS: Jordan, geomorphology, slopes, pans, desert pavement, groundwater.