



Rock avalanche demolishes paleoclimatic evidence in New Zealand: 'The Hillocks'

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This poster exemplifies the danger of relying on casually-identified 'moraines' for paleoclimatic reconstructions; a landform in Otago, New Zealand, previously interpreted as a glacial deposit, is described and its recent re-interpretation as a rock avalanche is explained.

'The Hillocks' is a conspicuous cluster of small conical hills on the floodplain of the glaciated Dart River valley. The landform is officially identified as an outstanding example of a glacial kame deposit, formed during retreat of the Dart Glacier, and consequently it is protected under a local bylaw. However, observations of the geological and geomorphological setting, and the deposit morphology, sedimentology and lithology, suggest that it was instead formed by a large (c. 22.5 x 106 m³) rock avalanche subsequent to glacial retreat. The landslide deposit temporarily dammed the Dart River valley and relative age-dating evidence suggests that it is younger than ca 7500 B.P.

This poster shows that fundamental geomorphological techniques are required to distinguish between the (often ambiguous) deposits produced by glacial deposition and those produced by mass-movement processes. Good understanding of landslide initiation, runout and depositional processes, and thorough investigation of the landform morphology and sediment, are essential.