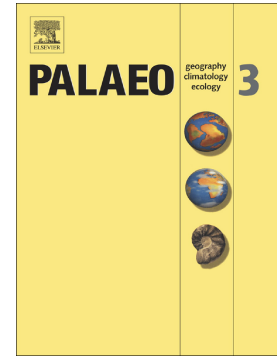


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Temporal constraints for the Late Wisconsinan deglaciation of western Canada using eolian dune luminescence chronologies from Alberta

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Abstract

The Laurentide Ice Sheet (LIS) covered most of Canada during the Last Glacial Maximum. Sometime after 20 cal. ka BP, the LIS began to recede from western Canada and, by 11 cal. ka BP, it had retreated from most of the province of Alberta. Due to the scarcity of datable contemporaneous organic materials, the precise timing of the retreat of the ice sheet from the region remains poorly constrained so that the chronology of the sequential positions of the ice sheet margin between 20 and 11 cal. ka BP is largely tentative. In this study, we use luminescence dating of postglacial eolian deposits, sourced primarily from glaciolacustrine and deltaic sediments in central and northern Alberta, to provide an updated chronology for the retreat of the LIS from the region. We examine 14 new and 13 previously published quartz optically stimulated luminescence (OSL) ages, as well as 19 previously published K-feldspar

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