

# Ice height changes in inland East Antarctica determined from cosmogenic nuclide measurements

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To date only scant onshore geological evidence has been obtained that can be used to constrain former ice extent in East Antarctica. Particularly difficult to find is evidence for past changes in the vertical extent of the ice sheet. The use of *in situ* produced cosmogenic nuclides, such as <sup>10</sup>Be and <sup>26</sup>Al, can allow the dating of glacial landforms such as moraines, erratics, and glacially eroded bedrock surfaces, at elevations above the present ice height.

Here <sup>10</sup>Be and <sup>26</sup>Al concentrations measured in both bedrock surfaces and glacial erratics are presented for a number of localities in the interior of the East Antarctic Ice Sheet. These data provide new constraints on former East Antarctic ice volume, during both the last glacial maximum and during prior glacial cycles. The localities studied include; the southern Mawson Escarpment, on the flanks of the Lambert Glacier – a very large outlet glacier draining a large fraction of the East Antarctic Ice Sheet; and several nunataks in the Grove Mountains, at an inland site far from the influence of major outlet glaciers.