



## Paleosols in the Transantarctic Mountains

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The Transantarctic Mountains (TAMs), a 3,500-km long chain that subdivides East Antarctica from West Antarctica, are important for reconstructing the tectonic, glacial, and climatic history of Antarctica. With an ice-free area of 24,200 km<sup>2</sup> (50% of the total in Antarctica), the TAMs contain an unusually high proportion of paleosols, including relict, buried, and exhumed soils. The unconsolidated paleosols range from early Holocene to Miocene in age, and the consolidated paleosols range from Oligocene to Permian in age. The paleosols feature buried features such as ventifacts, redbeds, and ancient glacial ice and relict features such as sand-wedge casts, volcanic ash and lithified tree stumps. The preservation of paleosols in the TAMs over the past 14 Ma is enhanced by cold-based glaciers that are able to override landscapes while causing minimal disturbance. Examples are given from the Beardmore Glacier region (85°30'S), the Hatherton-Darwin Glacier region (80°S), and the McMurdo Dry Valleys (78°S).