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## Neoglacial oscillations in the northern Fildes Peninsula, King George Island, Antarctica

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The spatial and temporal patterns of Holocene glacial oscillations in most currently ice-free areas of Antarctica remains unknown. This work focuses on the recent deglaciation in the northern sector of the Fildes Peninsula, King George Island, northern Antarctic Peninsula. The ice cap covering ca. 90% of the island has receded since the last glacial maximum and exposed ca. 29 km<sup>2</sup> of ice-free land. We reconstruct its glacial history based on a dataset of 12 <sup>36</sup>Cl exposure ages obtained through Cosmic-Ray Exposure (CRE) dating of moraine boulders, polished surfaces and erratic boulders surrounding the peninsula's northern plateau. Results reveal that the deglaciation of the northern Fildes Peninsula took place during the Holocene Thermal Maximum at 7-6 ka, when warm conditions promoted a massive glacial retreat. The present arrangement of ice-free areas was in place by 6 ka. Small cirque moraines suggest the subsequent occurrence of favourable climate conditions for glacial expansion fed by intense snow deflation at 4.6 and 1 ka at the foot of the northern plateau. The deglaciation pattern of the Fildes Peninsula resulted from the combined shrinkage of different ice masses, rather than of the long-term retreat of the King George Ice Cap. No evidence of glacier expansion during more recent cold periods (i.e. the Little Ice Age) was found. These results fit well with regional deglacial histories inferred from lacustrine sediments and raised beaches and complement the existing chronological framework to help better understand the peninsula's Holocene geocological dynamics.