



What lies beneath: A detailed bathymetry of the sea-floor below Ekstroöm Ice Shelf, East Antarctica

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An extensive grid of seismic reflection data collected on Ekstroöm Ice Shelf, East Antarctica, between 2010–2018, using an on-ice vibroseis source and snowstreamer, are used to make a detailed bathymetry map of the sea floor and ice-shelf cavity. The maps shows a deep sea-floor trough, likely a paleo-ice stream, under the western side of the ice shelf. The trough contains a number of points of higher topography, indicating probable former grounding line positions. At the shelf front a sill running across the width of the shelf has implications for ocean circulation and thus ice-ocean interaction and ice shelf melt. This new bathymetry is markedly different from previous models, which show a generally flat and shallow sea floor in the region. This is presumably the case for many of the smaller ice-shelves in Dronning Maud Land, which highlights the need for better bathymetry measurements in these key threshold regions.