



Evidence for basal water generation and transport in the Aurora Subglacial Basin, East Antarctica

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Data from a new regional airborne geophysical survey (ICECAP) has transformed our appreciation of the topography and glaciology associated with the Aurora Subglacial Basin in East Antarctica. Using these data in conjunction with numerical ice sheet modelling, we demonstrate the potential of the basin as a route for subglacial water drainage from the ice sheet interior to the margin. We present an analysis of basal topography (including roughness), radar power reflectance, basal ice temperatures and ice sheet flow. Our results suggest that the Aurora Basin may act as a pathway allowing discharge from subglacial lakes near the Dome C ice divide to reach the coast via the Totten Glacier. Nothing in the data is found to suggest an obvious topographic or subglacial thermal barrier to a continuously connected divide-to-margin basal hydrological system.