

**BEDMAP: a new ice thickness and subglacial topographic model of Antarctica**

Abstract by Matthew B. Lythe, David G. Vaughan and the BEDMAP Consortium

Data describing the thickness of the Antarctic ice sheet collected on surveys undertaken over the past 50 years have been brought together into a single database. These data have allowed the compilation of a suite of seamless digital topographic models for the Antarctic continent and surrounding ocean. The suite includes grids representing: ice-sheet thickness over the ice sheet and shelves, water-column thickness beneath the floating ice shelves, bed elevation beneath the grounded ice sheet, and bathymetry to 60°S including the areas beneath the ice shelves. These grids are consistent with a recent high-resolution surface elevation model of Antarctica. While the digital models have a nominal spatial resolution of 5 km, such high resolution is not strictly justified by the original data density over all parts of the ice sheet. The suite does however provide an unparalleled vision of the geosphere beneath the ice sheet and a more reliable basis for ice sheet modelling. The total volume of the Antarctic ice sheet is calculated to be 25.4 million km<sup>3</sup> while the total sea-level equivalent, derived from the amount of ice contained within the grounded ice sheet is 57 m, comprising 52 m from the East Antarctic ice sheet and 5 m from the West Antarctic ice sheet. The gridded data sets can be obtained from the authors.

A map summarizing the work of the BEDMAP Consortium has just been printed and will be displayed at XXVI SCAR; it shows the subglacial bed/seabed elevation model for the entire area south of 60° South.