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About the Cover

Large tabular icebergs ("tabletop" icebergs with steep sides and a broad, flat surface) that calve off of Antarctica's ice shelves contribute nearly half of the freshwater flux from the Antarctic Ice Sheet into the Southern Ocean. However, since their breakups have proven difficult to simulate, these large Antarctic icebergs have not been well represented in models—they are typically either omitted or represented as surviving longer and travelling farther than observations suggest they do in real life. To overcome this modelling challenge, [England *et al.*](#) developed a representation of iceberg fracturing using a breakup scheme based on the "footloose mechanism." They optimized its parameters by forcing the iceberg model with an ocean state estimate and comparing the modeled iceberg trajectories and areas with the Antarctic Iceberg Tracking Database. This breakup scheme dramatically improved large iceberg simulations, and the researchers found that including a representation of their breakup substantially altered the distribution of iceberg meltwater in the Southern Ocean described by models. The findings demonstrate the critical importance of including large icebergs in climate models. [CREDIT: TUI DE ROY/MINDEN]