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## FORECASTING ICEBERG TRAJECTORIES USING AN ICEBERG MODEL

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We present results of modelling iceberg tracks around East Antarctica, using the observed long-term tracks of massive icebergs as reference data. Icebergs can have major impacts on the Antarctic freshwater balance and distribution and so It is important to understand and forecast the trajectory of floating icebergs around the coast of Antarctica. We have created an iceberg model that includes drag, coriolis, and sea surface slope forces in the momentum equations. To date, the model does not include the effect of sea ice. We analyse these forces to determine the most important forcing terms in the dynamical balance. To first order, the ocean currents from a high resolution ocean model determine the overall trajectory of an iceberg path. We use Iceberg B09A as an example to demonstrate the validity of our approach. The actual track of B09A was westwards around the coast of East Antarctica. Our reference data begins on the 30th of August 1997 at 65.47S 130.11E and concludes on the 13th of January 2001 at 73.19S 34.45W. There are periods of no motion along the track which can be attributed to iceberg B09A grounding against the seafloor, or in regions of very weak ocean currents, or trapped in sea ice. When the track of B09A is compared to the modelled track, there is good agreement. The forecasting scheme iterates over each piecewise section of the track to update the ocean velocity field. Maps of the improved ocean flow field will be shown.