

**STUDY OF THE ICE SHELF-OCEAN INTERACTION IN THE AMERY REGION**

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The main purpose of this presentation is to study the dynamics of the Amery Ice-Shelf, and its interaction with the surrounding ocean. For this purpose, two models will be used: A three-dimensional high resolution hydrodynamic ocean model, with realistic melt/freeze rates and a purely barotropic high resolution model. The use of two different approaches and the inter-comparison of both models will help us to better understand the response of the Amery Ice-Shelf to ocean forcing. All observational data in that region (in-situ hydrographic measurements, borehole measurements, GPS, altimetry, tides) will be used to validate the models and analyse the different runs. Results will lead to estimates for freshwater budgets and sea level rise under different climate change scenarios and improve the tide modelling and estimates of the energy dissipation under the ice-self. Computed drainage pattern over Antarctica suggests that 80% of the surface of Antarctica flows out through less than 25 ice streams. The Lambert Glacier is one of these major ice streams. Then we will try to investigate the potential influence of changes in dynamics of the Amery ice-shelf in terms of mass balance evolution in the Lambert drainage Basin.