



## **Preliminary Results from the third Marine Ice Sheet Model Intercomparison Project (MISMIP+)**

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The third Marine Ice Sheet Model Intercomparison Project (MISMIP+, Asay-Davis et al, GMD vol 9, pp 2471-2497, 2016 ) builds on the earlier MISMIP and MISMIP3d projects by considering an idealized ice sheet geometry that includes substantial lateral stresses in its ice shelf. The upshot of these additional stresses is a strongly buttressed system that includes a stable steady state grounding line on a retrograde slope, following Gudmundsson et al (TC, vol 6, pp 1467-1505, 2012). This allow us to compare models in a setting resembling, for example, Pine Island Glacier, Thwaites Glacier, and Totten Glacier, where ice shelf thinning leads to loss of buttressing and, turn ice stream acceleration, mass loss, and grounding line retreat.

We will present preliminary results from a number of models. We will discuss the impact of physical model choice - such as the choice of basal sliding law and the choice of englacial stress approximation, and numerical methods - such as mesh resolution, discretization method, and the use of modified schemes such as sub-grid basal traction coefficient interpolation.