



Sensitivity of marine ice-sheet grounding-line instability bifurcations to parameter ignorance.

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Recent numerical work (Schoof, 2007) has suggested (i) that the marine ice-sheet grounding line instability has the potential to explain large-scale rapid changes in grounding-line position; (ii) the grounding line instability is of long wavelength, and (iii) that there is strong quantitative dependence on the accuracy of the computation.

Item (iii) has a strong implication that there will also be a strong quantitative dependence on the parameters of the problem; the accumulation rate, the ice rheology and the sliding properties of the bed. This, as well as (ii), is investigated through numerical perturbation techniques and through numerical computations.

There will be some discussion of the issue of required numerical accuracy in the context of imperfect quantitative knowledge of the governing equations.