Sensitivity studies of ice divide position using a numerical ice-sheet/shelf model

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Ice divides are important locations for drilling on ice-sheets. Since the ice flow pattern, which affects dating, is significantly different between an ice divide and the other areas, sensitivity of the ice-divide position to changes in various boundary conditions should be investigated. In this study, numerical experiments under synthetic configurations are systematically conducted using a numerical ice-sheet/shelf model IcIES, to evaluate how local bedrock topography and/or ice-sheet extent affects the ice-divide position.

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