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## Antarctic sensitivity to oceanic melting parameterizations

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Ice in Antarctica has been experiencing dramatic changes in the last decades. These variations have consequences in terms of sea level, which could have an impact on human societies and life on the planet in the future. The Antarctic Ice Sheet (AIS) could become the main contributor to sea-level rise in the coming centuries, but there is a great uncertainty associated with its contribution, which is due in part to the complexity of the coupled ice-ocean processes. In this study we investigate the contribution of the AIS to sea-level rise in the coming centuries in the context of the Ice Sheet Model Intercomparison Project (ISMIP6), but covering a range beyond 2100, using the higher-order ice-sheet model Yelmo. We test the sensitivity of the model to basal melting parameters using several forcings and scenarios for the atmosphere and ocean, obtained from different GCM models. The results show a strong dependency on variations of the parameter values of the basal melting laws and also on the forcing that is chosen. Higher values of the heat exchange velocity between ice and ocean lead to higher sea-level rise, varying the contribution depending on the forcing. Ice-ocean interactions therefore can be expected to contribute significantly to the uncertainty associated with the future evolution of the AIS.