

## **B10-O02**

### **SENSITIVITY OF THE SIMULATED PROJECTION OF GREENLAND ICE SHEET TO VARIATION OF STRUCTURAL UNCERTAINTIES IN ICE-SHEET MODELS**

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This study revisits the future surface-climate experiments of Greenland ice sheet proposed by the SeaRISE (Bindschadler et al. 2013). Series of the sensitivity experiments are reexamined using an ice-sheet model IcIES with replacing one or more formulation of the model to those adopted in other model(s). The results show that the main sources of the diversion in the projection of SeaRISE participants are difference in the initialization methods and that in the surface mass balance methods, and both two aspects have almost equal impacts on the results. Treatment of ice-sheet margin in the simulation has secondary but significant impact on the diversion. Performance of an initialization technique, which spinning-up the ice-sheet topography with fixed through the time while temperature is allowed to be evolved according to the surface temperature history, is indirectly evaluated. It is concluded that this initialization method is not a bad representative, at least for the experiment configuration in the present paper such as time-scales. A benchmark experiment set-up is proposed for future intercomparison, which may most of the numerical model can perform, in order to evaluate the uncertainties relating to pure ice-sheet model flow characteristics.