

## **Second Review of Kazmierczak et al. (2022) ‘Subglacial hydrology modulates basal sliding response of the Antarctic ice sheet to climate forcing’**

### **General comments**

The paper remains a well-written investigation into the the respective effects of exponents in the sliding law versus those of coupling with (simple) subglacial hydrological models on the evolution of the Antarctic Ice Sheet up until 2100. It tests four sliding-law exponents ( $m=1,2,3,5$ ) and four different subglacial hydrology approaches, as well as a no-hydrology approach, across two extreme forcing scenarios and three realistic forcing scenarios. The authors conclude that, at the ice-sheet-wide scale, the exponent in the sliding law has a larger impact than the choice of subglacial hydrology model; this choice only modulates the eventual mass loss value up and down slightly. At a basin level, however, this finding is less evident. Overall, I think the paper is well-written and logically structured, as well as being sound science. The figures are well-presented and clear.

The authors have clearly put additional work into the paper to meet the points I raised in my initial review, for which I am grateful. In particular, I feel the conclusions now fit better with the results presented in the paper, my previous chief concern. As a result, I see no reason to further delay publication of the paper and recommend that it be accepted.