



The Contribution of Antarctica to Future Sea-Level Rise inferred from PISM-PIK

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Recently it has been suggested that the rate of global sea-level rise is proportional to an increase in global mean surface temperature (Rahmstorf, Science 2007). The contribution of land ice masses to sea-level rise is still highly uncertain. Here, this issue is addressed for the Antarctic Ice Sheet through simulations with the Potsdam Parallel Ice Sheet Model (PISM-PIK). In a series of first experiments, the effect of surface warming of up to 5°C and of ocean warming of up to 2°C is analyzed on a time scale of 100 years, so far neglecting temperature induced changes in accumulation. The initial response of the ice sheet gives a linear relation between air temperature increase and the rate of volume loss.