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## First results from coupling the Parallel Ice Sheet Model with the Modular Ocean Model via an Antarctic ice-shelf cavity module

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The past and future evolution of the Antarctic Ice Sheet is largely controlled by interactions between the ocean and floating ice shelves. To investigate these interactions, coupled ocean and ice sheet model configurations are required. Previous modelling studies have mostly relied on high resolution configurations, limiting these studies to individual glaciers or regions over short time scales of decades to a few centuries. To study global and long term interactions, we developed a framework to couple the dynamic ice sheet model PISM with the global ocean general circulation model MOM5 via the ice-shelf cavity module PICO. Since ice-shelf cavities are not resolved by MOM5, but parameterized with the box model PICO, the framework allows the ice sheet and ocean model to be run at resolution of 16 km and 3 degrees, respectively. We present first results from our coupled setup and discuss stability, feedbacks, and interactions of the Antarctic Ice Sheet and the global ocean system on millennial time scales.