



## **Simulating sea level changes in the POEM model**

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Earth System Models of Intermediate Complexity (EMICs) serve the purpose of investigating processes in the climate system that operate on longer time-scales, typically multi-centennial to millennial. They do this by utilising coarser resolutions in their model grids and parameterising smaller scale processes. In recent years, the increase in computing power available to researchers allows us to more accurately investigate these long-time-scale processes, such as glacial cycles, through the coupling of ice sheet models and advances in ocean modelling.

The Potsdam Earth System Model (POEM) represents a step in this direction, aiming to address scientific questions spanning multi-millennial time-scales with processes such as changes in continental ice sheets and sea level, explicitly and transiently simulated. It has a fast, statistical-dynamical atmosphere (Aeolus) and a coarse resolution ocean with a built-in wetting and drying scheme (MOM6). The results presented here show progress in the development of POEM and, in particular, tests of transient simulations where sea level is altered.