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The Damping Effect of Bottom Topography on Internal Decadal-Scale Oscillations of the Thermohaline Circulation

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ABSTRACT

By comparing the response of flat and bowl-shaped basins to fixed heat fluxes of various magnitudes, it is determined that coastal topography has a considerable damping influence upon internal decadal oscillations of the thermohaline circulation. It is proposed that this is because the adjustment of baroclinic currents to the no-normal-flow boundary condition at weakly stratified coasts is aided in the topography case by the generation of substantial barotropic flow.

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