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Ocean heat content variability in strongly-eddying global climate models

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Internal variability of the ocean is of great importance to the earth's heat budget as the ocean is the climate system's largest heat reservoir. Large scale, quasi-periodic changes in ocean heat content and associated surface fluxes occur as modes of variability, such as the Atlantic Multidecadal Oscillation or the Interdecadal Pacific Oscillation. These modes express themselves at the sea surface as temperature anomalies for which good historical records exist. Recent multi-century simulations with strongly-eddying global climate models have indicated that new modes of variability can appear. In this presentation, we compare variations in heat content on decadal time scales in non-eddying versus eddying ocean-climate models and focus on the consequences for decadal climate predictability.