

Supporting Information for “Coupled Aqua and Ridge Planets in the Community Earth System Model”

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Introduction

The supporting information provides supplementary figures and an animation to the main text.

Figures S1 to S4

Movie S1. An animation of the seasonal cycle of SST in CESM Aqua and Ridge configurations, using the monthly mean of simulated Yr 400 as an example.

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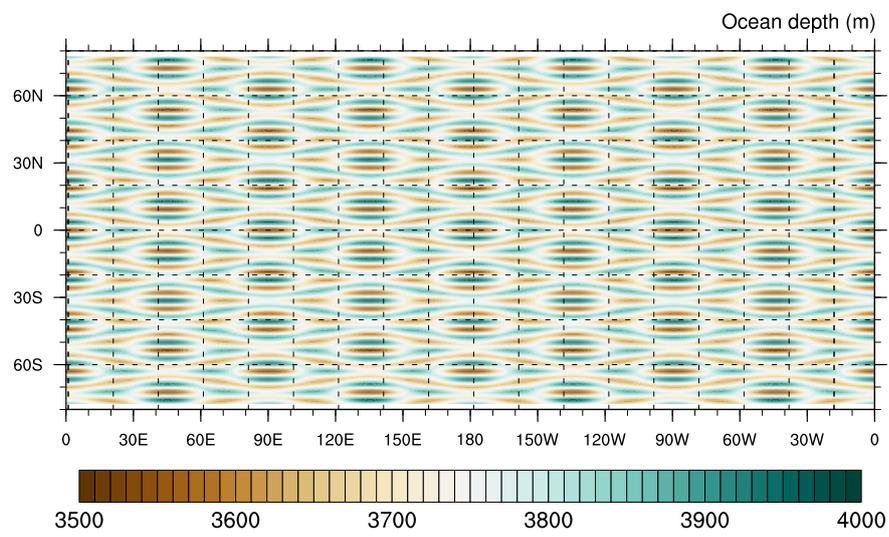


Figure S1. Ocean model bottom topography.

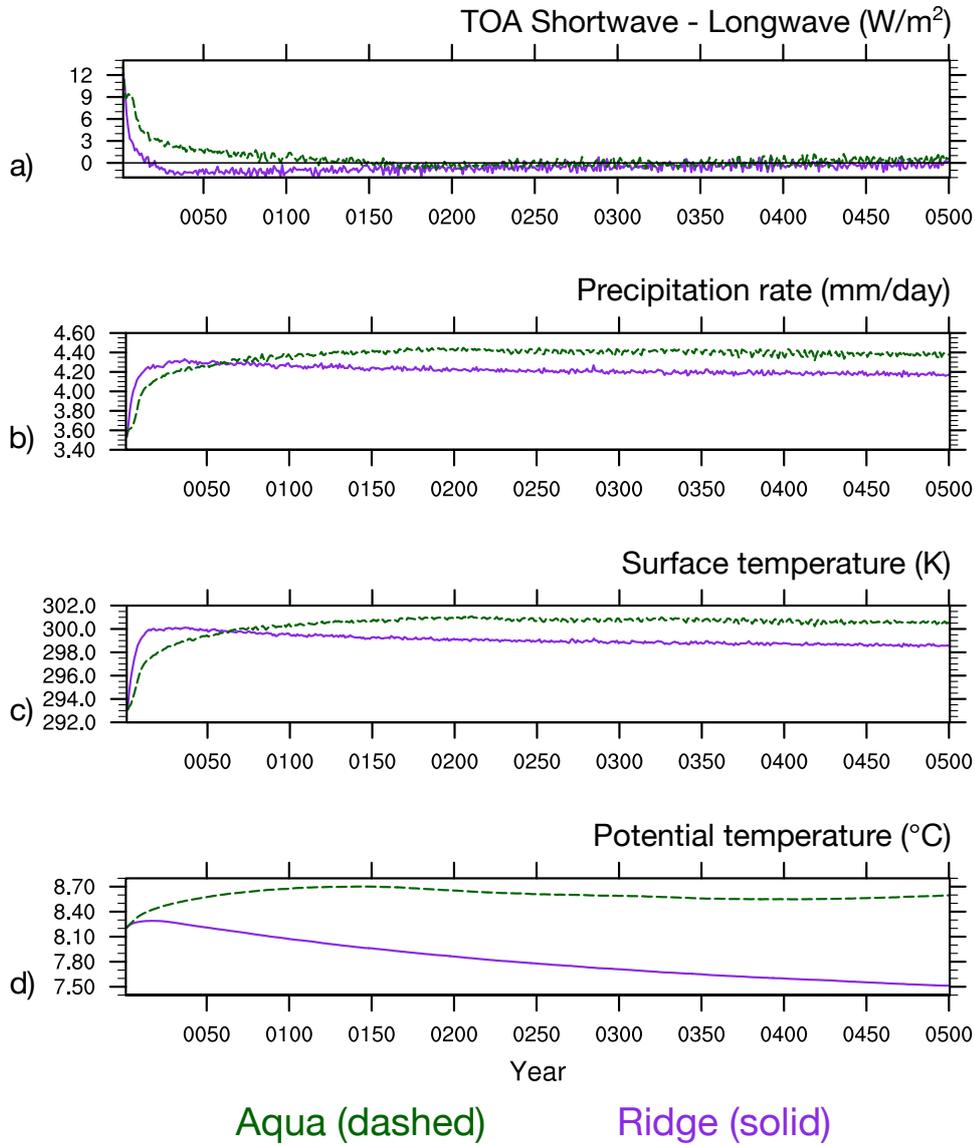


Figure S2. Model spin-up as reflected in the 500-year time series of annually averaged global mean fields: (a) Top-of-atmosphere radiative disequilibrium (W/m^2); (b) Precipitation rate (mm/day); (c) Surface temperature (K); (d) Ocean potential temperature ($^{\circ}C$).

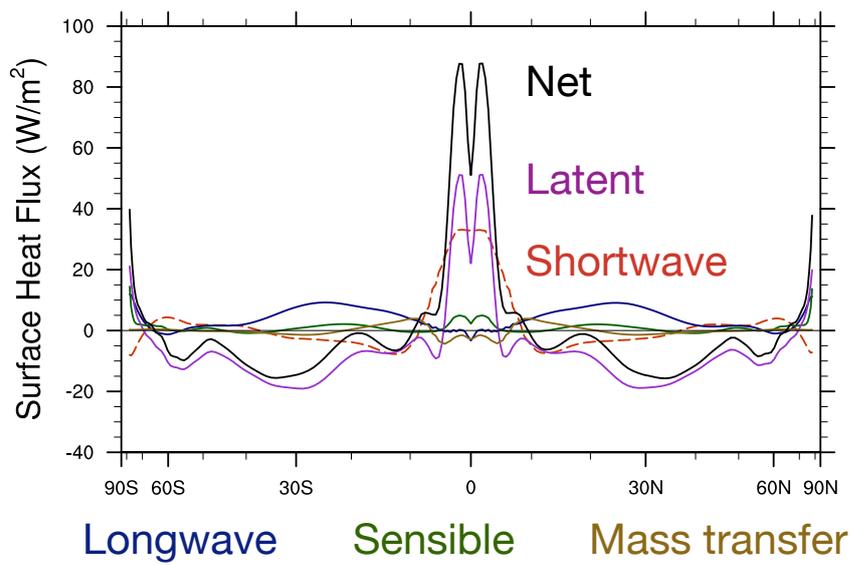


Figure S3. Climatological (100-yr) surface heat fluxes, Aqua minus Ridge, cf. Fig. 3e–f of the main text.

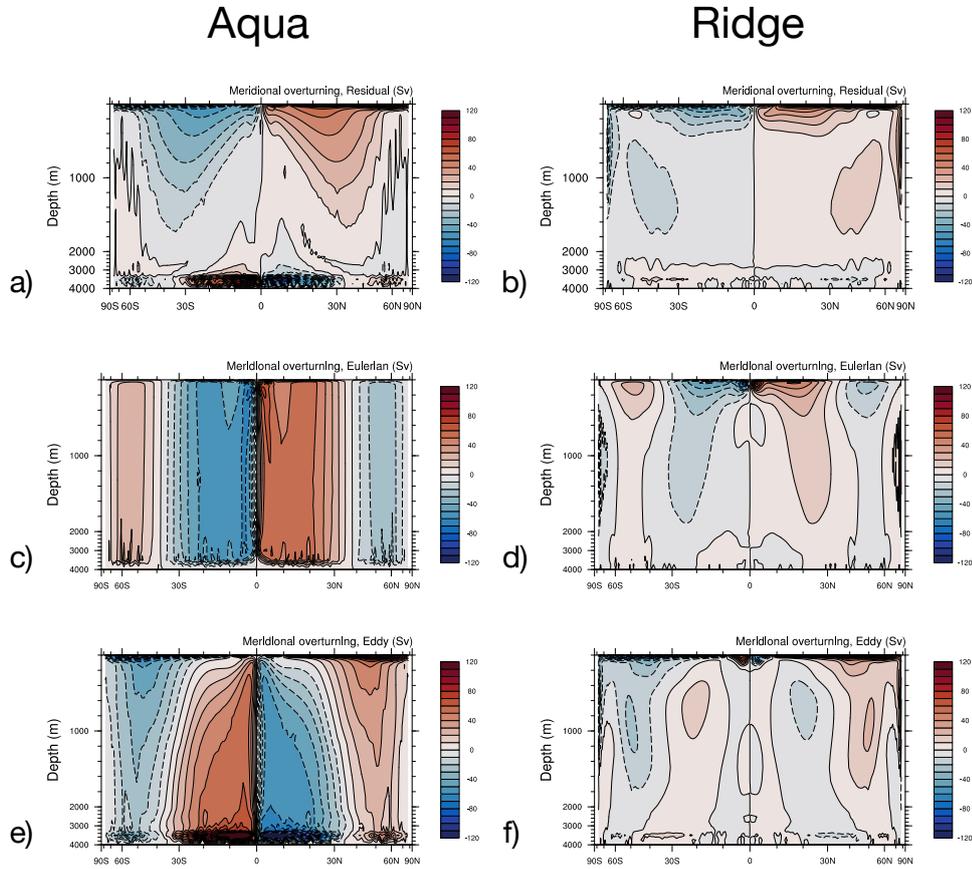


Figure S4. Decomposition of ocean meridional overturning circulation (Sv), 100-yr climatology. (a–b) Residual, same as the contour lines in Fig. 8c–d of the main text; (c–d) Eulerian mean component; (e–f) Eddy component. The overturning cells are closed to within the magnitude of atmospheric moisture transport in the surface mixed layer (see P–E in Fig. 4h of the main text).