Supplemental Materials
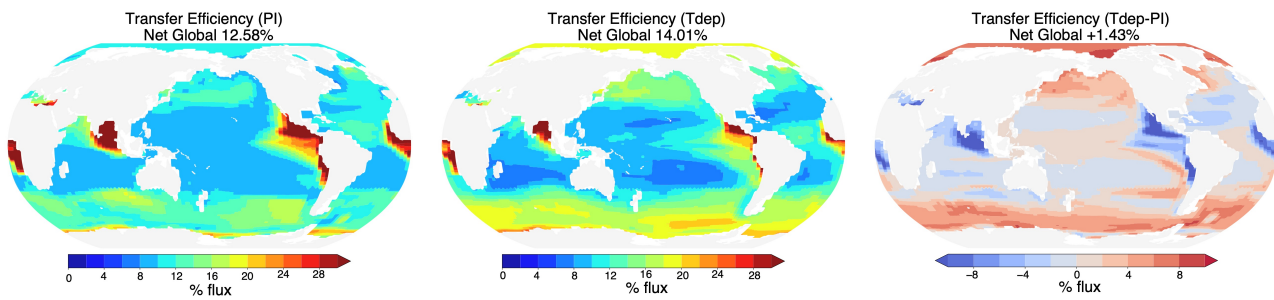
Figure S1. Global transfer efficiency map. Low-resolution configuration for PI control (left) and Tdep simulations (center), as well as difference (right). Net global transfer efficiency is noted.

5
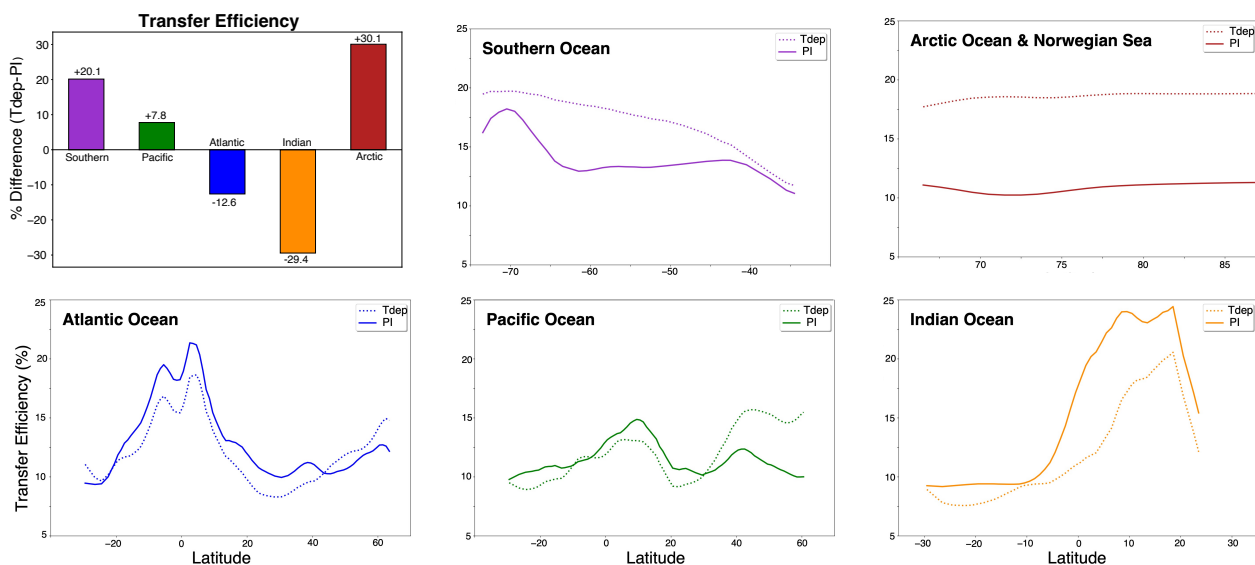
Figure S2. Zonally averaged transfer efficiency. Global assessment of zonally averaged transfer efficiency for low-resolution simulations. Inset shows basin-scale average for transfer efficiency by latitudinal band.

10
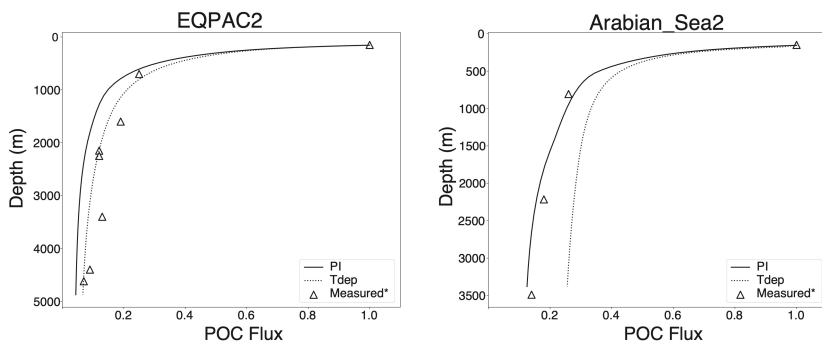
Figure S3. Zonally averaged transfer efficiency. Low-resolution results for two sites differing from high-resolution simulation.
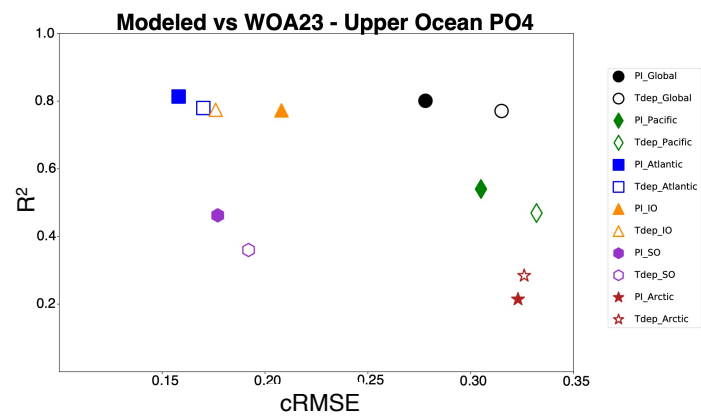
Figure S4. Upper ocean PO4. Low-resolution results for averaged upper 100 meters versus WOA23.