



## **ECCO 1 DEGREE GLOBAL SYNTHESIS: ESTIMATED OCEAN TRANSPORTS AND SURFACE FLUXES**

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A global WOCE data synthesis describing the three-dimensional oceanic state in the 10-year period 1992 - 2001 now exists. The synthesis results from the combination of many of the WOCE data sets with a general circulation model. This combination solves the complete global time-dependent ocean state estimation problem, up to remaining approximations in the model and underlying statistics. The ECCO/MIT ocean model used represents the global ocean between +/- 80 degrees with 1 degree horizontal resolution, 23 vertical layers, and includes parameterizations for the surface boundary layer (KPP) and eddy tracer transfers (GM). Dynamically consistent variations in the model show temporal variability of oceanic heat transports, heat storage and atmospheric exchanges that are complex and with a strong dependence upon location, depth, and time-scale. One can now study the dynamics of both the mean and time variability from the model with the reassurance that it is consistent with the great bulk of the WOCE observations.