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# A global eddy-permitting physical/biological ocean simulation

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Results are presented from a multi-decadal eddy-permitting ocean simulation with a relatively high complexity embedded ecosystem model. The ocean model is a fully global configuration of the Parallel Ocean Program (POP) with 4/10 degree horizontal resolution at the equator and 40 vertical levels. The ecosystem model is that used by Moore, Doney and Lindsay (Global Biogeochemical Cycles, 2004) with 24 ecological and biogeochemical tracers, including multiple phytoplankton types, multiple limiting nutrients, explicit iron cycling, and a mineral ballast/organic matter parameterization. The system is forced by daily NCAR/NCEP reanalysis (beginning in 1948) and a variety of data-based climatologies. Results will be compared with data, as well as with a coarse resolution simulation (3.6 degree equatorial resolution) that has been configured as similarly as possible to the eddy-permitting run. We will evaluate the mean model behaviour as well as the variability at various timescales, with an emphasis on differences related to model resolution.