



Validation and tuning of mixed layer models for operational ocean models

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Validation of mixed-layer models is presented against the OWS Papa dataset in the North Pacific and against ARGO profiling floats. Three schemes are compared using a 1-dimensional testbed code: a bulk scheme(1), a KPP scheme(2) and a TKE scheme(3). The 1D testbed was also used to optimise the choice of parameters in the bulk scheme and to investigate the impact of the assimilation of ARGO profiles. Validation of the mixed-layer depth has been carried out in hindcast integrations of the FOAM ocean analysis and forecast system. Results will be shown, including a discussion of the impact of the tuning of the bulk mixed-layer scheme.

(1) Kraus and Turner 1967, *Tellus* 19, pp 98-106

(2) Large, W.G., McWilliams, J.C., Doney, S.C. 1994, *Rev. Geophys.* 32(4), pp 363-403

(3) Burchard, H., Bolding, K., and Villareal, M.R. 1999, Tech. Rep. EUR 18745 EN, European Commission