



Abstract View

[Volume 5, Issue 4 \(October 1975\)](#)

Journal of Physical Oceanography

Article: pp. 718–728 | [Abstract](#) | [PDF \(610K\)](#)

The Structure and Dynamics of the Ocean Surface Mixed Layer

G. L. Mellor and P. A. Durbin

Geophysical Fluid Dynamics Program, Princeton University, Princeton, N. J. 08540

(Manuscript received January 15, 1975, in final form June 2, 1975)

DOI: 10.1175/1520-0485(1975)005<0718:TSADOT>2.0.CO;2

ABSTRACT

The present paper describes a one-dimensional unsteady model of the ocean surface mixed layer. The model somewhat resembles the approach of Munk and Anderson in that the differential equations for mean velocity and temperature are solved. The Richardson-number-dependent stability functions which enter the model are significantly different, however, as is the fact that we are able to solve problems with realistic boundary conditions. Furthermore, all empirical constants have been determined from neutral turbulent flow experiments.

Comparisons of prediction and data are favorable.

Options:

- [Create Reference](#)
- [Email this Article](#)
- [Add to MyArchive](#)
- [Search AMS Glossary](#)

Search CrossRef for:

- [Articles Citing This Article](#)

Search Google Scholar for:

- [G. L. Mellor](#)
- [P. A. Durbin](#)

top ▲



© 2008 American Meteorological Society [Privacy Policy and Disclaimer](#)

Headquarters: 45 Beacon Street Boston, MA 02108-3693

DC Office: 1120 G Street, NW, Suite 800 Washington DC, 20005-3826

amsinfo@ametsoc.org Phone: 617-227-2425 Fax: 617-742-8718

[Allen Press, Inc.](#) assists in the online publication of AMS journals.