



## Abstract View

[Volume 14, Issue 3 \(March 1984\)](#)

### Journal of Physical Oceanography

Article: pp. 623–628 | [Abstract](#) | [PDF \(432K\)](#)

## Observations of the Leeuwin Current off Western Australia

**Rory O.R.Y. Thompson**

*CSIRO Division of Oceanography, Hobart, Tasmania, 7001 Australia*

(Manuscript received September 6, 1983, in final form December 7, 1983)

DOI: 10.1175/1520-0485(1984)014<0623:OOTLCO>2.0.CO;2

### ABSTRACT

Shipboard observations made in May 1982 showed a definite poleward surface flow (the Leeuwin Current) over the West Australian shelf from 22°S to 28°S. The surface current was relatively fresh, warm, low in dissolved oxygen concentration, and high in nutrients. The current flowed against a strong wind.

Only a small portion of its flux of  $4 \times 10^6 \text{ m}^3 \text{ s}^{-1}$  came from the Northwest Shelf. There was a subsurface equatorward current at a few hundred meters depth which was salty, high in oxygen concentration and low in nutrients. Observations from previous cruises show a surface geopotential gradient that could drive the surface current. It is suggested that winter deepening of the mixed layer may allow the geopotential gradient to overcome the wind stress.

#### Options:

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

#### Search CrossRef for:

- [Articles Citing This Article](#)

#### Search Google Scholar for:

- [Rory O.R.Y. Thompson](#)

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](mailto:amsinfo@ametsoc.org) Phone: 617-227-2425 Fax: 617-742-8718

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