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[Volume 14, Issue 1 \(January 1984\)](#)

### Journal of Physical Oceanography

Article: pp. 193–197 | [Abstract](#) | [PDF \(347K\)](#)

# The Use of Land and Sea Based Wind Data in a Simple Circulation Model

**Franklin B. Schwing and Jackson O. Blanton**

*Skidaway Institute of Oceanography, Savannah, GA 31416*

(Manuscript received May 12, 1983, in final form September 13, 1983)

DOI: 10.1175/1520-0485(1984)014<0193:TUOLAS>2.0.CO;2

### ABSTRACT

The use of land based wind data in nearshore oceanographic work is common, but these winds do not accurately reflect coastal oceanic winds. Ocean winds are often underestimated by a factor of 2 and directional differences are also observed. Wind time series from land and sea regimes in the South Atlantic Bight (SAB) were applied to a reduced form of the momentum equation to estimate the alongshore current. Currents were closely approximated by ocean wind stress, but were consistently underestimated by land data. Further statistical analyses verified this discrepancy in speed and also indicated significant differences between ocean and speed-adjusted land winds. The bottom frictional coefficient required to balance alongshore momentum was unrealistically small when land based wind data were used as input.

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