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Mutual Intrusion of a Gravity Current and Density Front Formation

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ABSTRACT

A two-dimensional prognostic model was employed to examine the mutual intrusion of a gravity current and the formation of a density front. The results indicated strong vertical motion near the front and, with Earth rotation included, a baroclinic alongshore jet. Comparison with observations from the New England shelf-slope front indicated that the model gives a realistic description of the frontal structure and the mean southward current.

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