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A Three-Dimensional Model of Lake Ontario's Summer Circulation I. Comparison with Observations

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ABSTRACT

Observations of Lake Ontario during the International Field Year for the Great Lakes are used to develop a three-dimensional numerical model for calculating temperature and current. The model has a variable grid resolution and a horizontal smoothing which filters out small-scale vertical motion caused by truncation error but has little effect on the strong currents of the coastal boundary layer. Resolution of the shore zones and reduced horizontal smoothing improve simulation of both long-term mean flow and current reversals due to low-frequency waves.

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