

Abstract Submitted
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LES of an oscillating current over an inclined slope
BISHAKHDATTA GAYEN, SUTANU SARKAR, University of California, San Diego — Large-Eddy Simulations (LES) are performed to investigate the dynamics of a stratified bottom boundary layer on a continental slope under a tidal current. Turbulent mixing is observed to be different between the upslope and downslope phases of the flow. The observed difference is found to be related to the phase-dependent modulation of the stratification. Flow instabilities and turbulence in the bottom boundary layer excite internal gravity waves that propagate far from the wall region. The wave field during the upslope and downslope flow exhibits significant differences. The slope angle is varied and found to play an important role in determining properties of the bottom boundary layer.

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