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Dynamics of internal boluses across a shelf break[1] SUBHAS KARAN VENAYAGAMOORTHY, OLIVER FRINGER, Environmental Fluid Mechanics Laboratory, Stanford University, CA, USA — We present results of high-resolution two- and three-dimensional numerical simulations showing the interaction of nonlinear internal waves with a shelf break. The interaction of nonlinear incident waves with the shelf break results in the formation of upslope-surging vortex cores of dense fluid (referred to here as internal boluses) that propagate onto the shelf. We present results primarily focusing on understanding the dynamics of the interaction process with particular emphasis on the formation, structure and propagation of internal boluses onshelf.

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