MICHAEL DUNPHY, University of Waterloo
Internal tide generation with a background shear current

This work looks at internal tide generation by tidal flow over topography in the presence of a surface trapped background current. We use a 2D non-hydrostatic model to conduct numerical simulations at various strengths of background current. An energy budget analysis of the results reveals that while the generation rate is unchanged by the background current, the upstream energy flux is increased at the expense of reduced downstream energy flux. Lastly we consult the Taylor-Goldstein equation for insight in constructing an explanation for the asymmetric energy flux.