



## **The Energetics of Centrifugal Instability**

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A recent study has argued that the California Undercurrent, and poleward eastern boundary currents in general, generate mixing events through centrifugal instability. The purpose of this study is to examine the energetics of centrifugal instability in order to develop a framework in which to estimate its regional and global impacts. We argue that centrifugal instability is roughly twice as efficient at mixing as is Kelvin-Helmholtz instability, and that roughly 1/3 of the initially energy in the current is lost to either local mixing or the generation of unbalanced flows. The latter, according to traditional thought, probably leads to non-local mixing. Thus centrifugal instability is an effective process by which energy is lost from the balanced flow and spent in mixing neighboring water masses. Its regional and global impacts are discussed.