Momentum balance off the Oregon coast
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Abstract: We explore the vertically-integrated momentum balance using observations of the wind-driven circulation off the Oregon coast during the 2001 COAST experiment. The results are very sensitive to the orientation of the horizontal coordinate defining alongshore and cross-shore directions. A small rotation of the horizontal coordinate can result in large changes in the “alongshore” balance due to contamination by the dominant “cross-shore” near-geostrophic balance. We compare and contrast the momentum balance for an upwelling and a downwelling-favorable wind event.