## Abstract View

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# Nonlinear Coastal and Equatorial Jets

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ABSTRACT

Nonlinearities weaken westward equatorial jets and cause them to be shallower and broader than their linear counterparts. Nonlinear eastward equatorial jets, on the other hand, are more intense, deeper and narrower than linear jets. Since nonlinear effects are important on time scales longer than about one week, winds that fluctuate on such time scales introduce hysteresis effects and can generate flow with a complicated vertical structure in the surface layers of the equatorial oceans. Coastal jets differ from equatorial jets in that they are only weakly influenced by nonlinearities; this result could change if alongshore pressure forces are taken into account.