Abstract View

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The Seasonal Linear Response of the Tropical Atlantic Ocean

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ABSTRACT

The linear response of the tropical Atlantic ocean to climatological winds is calculated in a continuously stratified model and compared with observations. All the characteristic features of the dynamic topography are reproduced at the proper 1ocations including the series of zonally oriented ridges and troughs, the equatorial “pivot” zone and the seasonal variations of slope along the equator. Linear theory fails to explain seasonal variations of the South Equatorial Current and of the Equatorial Undercurrent, but it compares favorably for the major zonal currents off the equator (the North Equatorial Countercurrent, the Guinea Current and Undercurrent).