



## **Monsoon-modulated ring generation in the eastern Gulf of Aden**

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The Somali Current is unique among major western boundary currents in its propensity to reverse direction in response to semi-annual monsoon wind forcing. As a consequence, the western tropical Indian Ocean is rife with eddy variability spanning a range of temporal and spatial scales, much of it carefully documented by Fritz Schott and colleagues. We report here on in-situ and remote observations of westward-translating anticyclonic rings generated as a portion of the Somali Current accelerates northward through the Socotra Passage following the October and April monsoon transitions. The observed rings exhibit strong azimuthal velocities exceeding 50 cm/s, are comparable in overall diameter to the width of the Gulf of Aden (250 km), and translate westward at 5-8 cm/s. We combine unique transport measurements obtained by Schott and colleagues during 1995–1996 with recent satellite altimetry and ocean color imagery to demonstrate that Socotra Passage transport extrema associated with the monsoon transitions are strongly correlated with ring generation events. This distinct and predictable formation process distinguishes these rings from the spectrum of eddies which propagate into the Gulf of Aden from the Arabian Sea and the interior Indian Ocean.