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[Volume 18, Issue 11 \(November 1988\)](#)

Journal of Physical Oceanography

Article: pp. 1570–1583 | [Abstract](#) | [PDF \(1.33M\)](#)

The Retroflexion of the Agulhas Current

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(Manuscript received December 29, 1987, in final form April 25, 1988)

DOI: 10.1175/1520-0485(1988)018<1570:TROTAC>2.0.CO;2

ABSTRACT

A description of the nature and kinematics of the Agulhas Current termination is given based on satellite infrared imagery and selected hydrographic measurements collected over the past decade. On average the Agulhas retroflexion lies between 16° and 20°E longitude and has a loop diameter of 340 km. During the period of the investigation the retroflexion loop protruded into the South Atlantic at intervals of slightly more than one month, shedding a pinched-off Agulhas ring with a diameter of about 320 km at its most westerly extension. Rings drift away at about 12 cm s⁻¹ and can be observed by their distinctive thermal characteristics at the sea surface as far west as 5°E and as far south as 46°S, well south of the subtropical convergence. The shedding rate of rings and their subsequent drift may play an important role in the dynamics of the South Atlantic Ocean.

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