

AGULHAS CURRENT

The warm Agulhas Current is a major western boundary current along the east coast of South Africa flowing south-westwards (Schumann et al., 1991). It reaches its maximum velocities and is closest to the coast between Port Edward and the Bashee River (Boyd et al., 1992). The current follows the South African continental shelf closely until south of Port Elizabeth, where it becomes unstable and forms meanders and frontal eddies (Lutjeharms et al., 1989). The current core moves farther offshore and follows the eastern margin of the Agulhas Bank. Just east of the tip of the Agulhas Bank, the current leaves the continent and turns back on itself (retroflexes) (Boyd and Oberholster, 1994). This eastward flow is known as the Agulhas Return Current, which follows the northern edge of the Subtropical Convergence near 40°S (Lutjeharms and Ansorge, 2001).

At the retroflexion, warm core Agulhas rings are spawned (estimated at nine annually) and play a crucial role in the global heat flux. Other features associated with the Agulhas Current are Natal pulses, counter-currents, lee eddies, upwelling, early retroflexion and shear-edge eddies. The Agulhas Current has an influence on much of the shelf circulation. (Lutjeharms and van Ballegooyen, 1988; Schumann et al., 1991).

It is important to understand the Agulhas Current in terms of interbasin exchange as well as its influence on biota. Various fish species are affected by the current due to the availability and position of food sources, as well as transport and migration by the current. This affects where they spawn, and where they travel to, which in turn affects many fishing industries. (Boyd et al., 1992).

CLASSIC PAPER

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